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ABSTRACT

This paper is concerned with faculty members in higher education and the organizations in which they work. The research on which it is based involved an examination of the ways in which discrete work activities that were identified as part of the faculty role might be reaggregated on the basis of faculty preferences, replacing the present role structure where the latter is not supportive of those preferences. Estimated instrinsic satisfaction derived from the performance of the tasks was the foundation of the preferences. The central hypothesis of the study was that academic organizational structures can be modified to accommodate faculty needs and interests more directly. Such reorganization would have the result of placing faculty in roles that provide profound satisfactions, thereby increasing the likelihood of greater motivation and productivity and, ultimately, higher quality output. The research also examined the probability that even those activities that are now alleged by faculty to be undesirable will be found to be preferred by a number of faculty under a more pluralistic role and reward structure, this number being sufficient to meet organizational needs. (Author)

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Organizational Implications of Faculty Role/Activity Preferences

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Abstract

This paper is concerned with faculty members in higher education and the organizations in which they work. The research on which it is based involved an examination of the ways in which discrete work activities which were identified as part of the faculty role might be reaggregated on the basis of faculty preferences, replacing the present role structure where the latter is not supportive of those preferences. Estimated intrinsic satisfaction derived from the performance of the tasks was the foundation of the preferences. The central hypothesis of the study was that academic organizational structures can be modified to accommodate faculty needs and interests more directly. Such reorganization would have the result of placing faculty in roles which provide profound satisfactions, thereby increasing the likelihood of greater motivation and productivity and, ultimately, higher quality output. The research also examined the probability that even those activities presently with low status which are now alleged by faculty to be undersirable will be found to be preferred by a number of faculty under a more pluralistic role and reward structure, this number being sufficient to meet organizational needs.

This paper is concerned with faculty members in higher education and the organizations in which they work. The research on which it is based involved an examination of the ways in which discrete work activities which were identified as part of the faculty role might be reaggregated on the basis of faculty preferences, replacing the present role structure where the latter is not supportive of those preferences. Estimated intrinsic satisfaction derived from the performance of the tasks was the foundation of the preferences. The central hypothesis of the study was that academic organizational structures can be modified to accommodate faculty needs and interests more directly. Such reorganization would have the result of placing faculty in roles which provide profound satisfactions, thereby increasing the likelihood of greater motivation and productivity and, ultimately, higher quality output. The research also examined the probability that even those activities presently with low status which are now alleged by faculty to be undesirable will be found to be preferred by a number of faculty under a more pluralistic role and reward structure, this number being sufficient to meet organizational needs.

Background of the Problem

Because the tradition of academic freedom and other historical circumstances have created roles which are relatively free of close supervision, men and women who work in the academic profession often are considered more fortunate than those in other fields. This is especially true in research-oriented universities. Strong informal norms protect the individual faculty member from scrutiny by his department chairman and by his colleagues (Hagstrom,

1965). Though recent financial pressures have placed increased demands for "accountability" on faculty (Mortimer, 1972), the practical impact has thus far been small. The ways faculty spend their time are for the most part still self-reported and are determined by the manner of their professional socialization into the role and by the traditions of faculty role behavior at a particular institution (Blau, 1973).

Faculty in most universities are asked and agree to perform three broadly defined roles: teaching, research and service. For most, this means working with undergraduates and graduate students, inquiring into various academic fields with the hope of advancing the state of knowledge, and serving on departmental, institutional and community committees. Often these roles require many and diverse kinds of behaviors and a wide variety of talents and interests, a number of which may be incompatible with one another. For the research in this study, at least 320 separate tasks were identified. It is rare that a faculty member either likes or possesses the ability to perform well simultaneously all the tasks or in all of the sub-roles, though he or she may enjoy aspects of all three roles.

Unfortunately, the role as a composite has a tenacious persistence. As a result, many faculty are constrained to perform activities in which they have neither interest nor talent. The now nearly classic paradigm of mismatched organizational and individual needs (Argyris, 1964) obtains in higher education, though in subtle form. Most faculty simply tolerate or give minimal attention to the parts of their role which they find less desirable. The effect of such negligence is deleterious to the institutions

and the faculty. For example, some faculty tend to give less effort to their teaching responsibilities and hence teach poorly, leaving many of their students less educated and less satisfied. They also leave themselves with feelings of guilt at having not been able to fulfill their own conceptions of the requirements of their roles. On the other hand, there are those faculty who teach well, but are constrained by the role to spend considerable time doing research in order to meet the publications requirements of their institutions. Doubtless, the research is often superficial and contributes little to knowledge in the field. Again, faculty dissatisfaction with the role is incurred.

There are many reasons why the major faculty roles continue in this complex form (Gross, 1963). One is the simple force of inertia. Faculty train graduate students in the same mold in which they themselves have been formed (Jencks and Riesman, 1968). Hence, new faculty enter their profession expecting to perform all three parts of the faculty role and on arrival at a campus find their behavior reinforced. Moreover, their promotion and tenure depends on the adequacy of their performance in all three (though token attention is often given to the quality of their output in one or another). Another reason is that the diffuseness of the role definition serves to protect their academic freedom. That is, role specialization is feared (probably in a not fully articulated fashion) as leading to close specification and regimentation of behavior. Still a third reason is that prevailing beliefs, thus far without strong empirical support (Harry and Goldner, 1972; Cattell, 1973), suggest that each of the three broad aspects of the role is supportive of excellence in the

others. Doing research, in other words, helps one be a better teacher; having to transmit the existing body of knowledge gives rise to ideas for research; performing public service preserves the integrity of the institution and keeps research relevant, etc. In short, as Gross (1963) notes:

> ...the academic role has been gradually redefined to embrace the variety of diverse tasks that the university has assumed. Whereas other establishments have characteristically met similar situations with increased specialization and further division of labor, the university has primarily chosen the path of adding function after function to the tasks of the same personnel.

The interpretation of the faculty role varies in almost as many ways as there are faculty members. Different faculty emphasize different parts of the role, perform better or worse in them, and are more or less satisfied with them. The determinants of this behavior are a function of prior socialization and personal predilection, both being modified by the local press of the institution and the situational characteristics of the task. Some faculty enjoy teaching undergraduates in small seminars. Others like to lecture. Still others would rather work with graduate students in laboratories. Another group gets satisfaction from serving on departmental committees. Importantly, preferences change with age and tenure. Patterns of behavior giving pleasure in the early years of the faculty career cease to be as rewarding later in life.

This research was concerned primarily with an empirical determination of alternative roles which faculty might play, provided institutions of higher learning were able to overcome their resistance to change and were permitted to legitimize and reward these roles. It was reasoned that if faculty were not

required to do so many things -- i.e., were not asked either formally or informally, by their institutions or by the national professional reward system in higher education -- they might actually do better those that they themselves were free to elect. On a gross level, faculty members, not being constrained to publish when their proclivities disinclined them to do the research for it, might turn to teaching -- or the converse. Other faculty who are more oriented toward service outside the institution could exercise their talents in that direction without having to dilute their time and energies in giving token service to other faculty roles.

In the course of thinking about the traditional roles of faculty -- teaching, research and public service -- it became evident that within each of these main roles there were subroles which were distasteful to faculty who might otherwise be inclined to choose them as an exclusive primary occupation. Moreover, it was thought that portions of each of the roles might themselves be recombined into new roles. Such new roles might be created on the basis of constellations of activities which traditionally were allocated to one or another of the traditional three roles. In other words a number of similar kinds of activities which are performed in each of the present three major roles might be drawn together as a new role under different organizational rationale.

Theoretical Background

Research reported in the literature on organizational behavior abounds with findings that most organizations impose themselves on the freedom of their members to pursue the satisfaction of their own personal needs (Argyris, 1964; McGregor, 1960; Lawler, 1973).

The converse seems to be true also. Individuals and groups subvert the aims of the organization by ignoring formal organizational procedures and by following informal group norms with respect to production rates and quality (Roethlisberger & Dickson, 1939). Some researchers insist that both phenomena are inevitable. Because a large number of jobs in a technological industrial society are tedious but must be done anyway, individuals allegedly must be coerced into conforming as far as possible to the institution's standards. Similarly, since people are not perfect and since most organizations are governed by cultural norms which limit the nature of supervision (i.e., not many are penal institutions), it is to be expected that there will be some discrepancy between institutional expectations and actual performance (Etzioni 1964; Litterer, 1963, Part V; Selznick, 1948)

Most theories about organizational behavior derive from assumptions about the primacy of organizational and/or social goals in American society. That is, it is presumed that "efficiency" and high "productivity" are appropriate primary ends of organizations. For the most part, work settings are not, it is said, places where individuals should look for life satisfactions and fulfillment. Work for the majority of Americans is a means to an end -- namely, to remuneration and associated non-work rewards (Dubin, 1956). In the last several decades, however, a substantial number of organizational theorists have been questioning these assumptions. It is possible within limits, they say, to rearrange our work organizations such that individuals can grow and develop as human beings at the same time that the organization achieves its ends. Indeed, individual and organizational goals

can be made co-equal aims (Herbst, 1974).

Organizations in which many professionals work are somewhat different from those in which the bifurcation of institutional and individual goal achievement is strongest. Commonly, professional organizations are umbrellas for the protection of individuals as the latter follow their personal goals. Supervision in such organizations is presumed to be relatively slight, since norms of professional behavior have been internalized by workers (Kornhauser, 1962). That is, standards of performance will be met more because of professional and peer pressures than because of organizational demands. It is, nevertheless, true that where heavy tradition has determined even professional responsibilities within an organization (as, for example, in a university), time and effort spent on roles will be somewhat circumscribed (Hagstrom, 1965). Workers will, in other words, be constrained to behave in traditional ways, even while they are permitted some greater freedom as organizational members.

The issue of the potential compatibility of institutional needs and individual needs in organizations is an old one among those concerned with the study of organizations. As will be discussed later in detail, this research presumed that at the very least an accommodation of the needs of both should be a prerequisite of any reorganization of the academic profession. That is, not only must universities attend to matters of increased productivity but they must also be concerned with the quality of the lives of workers over the course of their careers.

With this perspective in mind, two central organizational principles were engaged in the determination of the modes of

aggregating subparts of the three traditional roles. The first was: what jobs need to be done in order that institutional objectives be achieved? What specifically were the tasks which the institution needed to have performed in order that its missions effectively be accomplished. The second principle was: what jobs needed to be made available in order that faculty lead productive and fulfilled lives? A corollary of these principles was: what organizational combinations of institutional prerequisites in the form of job activities best accomplish its objectives and, conversely, what combinations of activities best serve faculty interests for change and variety over the life cycle? Finally, the question was: how are these two clusters--institutionally determined activities and faculty determined activities--related?

As will be seen in the section following, the approach to the solution of these intimately related questions was not to examine each separately. For example, an occupational or sub-occupational analysis of faculty activities as they relate to organizational needs could have been performed using manpower planning models. Similarly, theoretical and empirical investigation into the sub-dimensions of academic intellect, aptitude, and interest using, perhaps, Guilford (1959) and Strong (1943) as models. The sets of roles which emerged from the two procedures could then have been matched. Instead, the research mode was to use the academic "task" as the meeting ground for both sets of needs, organizational and personal, in combination. The decision turned on the manner by which tasks of professionals in organizations are organized into personal specializations (Thompson, 1964; Tyler, 1973).

Some Theories of Departmental Specialization

As March & Simon (1958, p. 158) note, the division of work is a problem of discovering units of organization which can most efficiently encompass the allocation of activities among individuals. However, they continue, "the division of work that is most effective for the performance of relatively programmed tasks need not be the same as that which is most effective for the performance of relatively unprogrammed tasks..." The question of the degree to which some or all academic tasks can be programmed is critical to the form of organization which evolves or is chosen (Perrow, 1970, p. 79). Such ambiguities are inevitable in most organizations and are compounded in universities, where most tasks are assumed to be unprogrammed (and unprogrammable), and the multiple goal or mission orientation requires (or has been assumed to require) a diversity of personal specializations in each faculty member.

The kind of organizational "structure" which will maximize the effectiveness of the organization in the achievement of its several goals while at the same time affording optimum conditions for individual need satisfaction for its workers depends on a number of other variables, of which programming is only one. By structure for this study is meant only the manner of departmentalization. The latter is considered as a dependent variable. (Not of concern here were such other structural elements as specification of activities, concentration of authority, line control of workflow, and relative size of supportive component (Pugh et al., 1968*)).

*Also omitted are such variables as size, span of control and administrative component (Blau et al., 1976), since for this six-institution sample and the population they represent, these were assumed to be relatively constant.

Unfortunately, the now voluminous literature on the independent variables which constitute sources of "structure" ignores for the most part the character of departmentalization when the latter is conceived as a dependent variable. But the partialing out of selected independent variables described in the literature as predictive of other structural dependent variables is instructive in understanding the complexities of the influences on the functional division of labor. For example, among these independent variables are:

1. Nature of beneficiaries of the institution's output (Blau & Scott, 1962; Etzioni, 1964).
2. Nature of the environment external to the organization in terms of its relative stability and predictability (Lawrence & Lorsch, 1967; Thompson, 1967, p. 27; Emery & Trist, 1965; Terreberry, 1968; Jurkowitz, 1974).
3. Nature of the goals of the organization in terms of their specificity and diffuseness (Katz & Kahn, 1966, p. 265).
4. Nature of the technology required to transform the product or service into output form (Davies, Dawson & Francis, 1973; Hickson, Pugh & Pheysey, 1969; Perrow, 1967).

An important omission from this list of independent variables is the impact of cultural norms and professional values which have been shown to be important in influencing structure. However, it was assumed for this study that such variables could better be treated as dependent -- following from a restructuring rather than a source of it. This is not to deny the importance of these variables in the quality and quantity of output (Hrebiniak, 1974). Rather, it presumes a more narrowly circumscribed range of attitudes and values within sub-units, given the kind of structure envisioned as resulting from the research. Indeed, in organizations with multiple task environments, different internal values and norms -- e.g. leadership styles -- in the subunits may be "coupled" directly to external needs (Becker & Neuhauser, 1975, p. 66). While

assumptions in this kind of environmental contingency theory can be (and often are) attacked on the grounds that they ignore social contingencies within the organization (Gouldner, 1959), these criticisms are based on their own assumptions of conflict in bureaucracies. In this research, such conflict is assumed to be minimal by virtue of the manner of formation of the specialized departments. For example, since participation in a subunit stems from personal preference for the activities, more homogeneous groups of workers will be formed. As Herbst (1974) has noted, problems of authority, control and levels resolve themselves through organizational designs which account for human needs.

It is possible to hypothesize the effects of independent variables (beneficiaries, texture of the environment, goal clarity and technology) on the dependent variable (mode of departmentalization). Since the university is a complex organization with multiple clients and goals, a number of internal divisions of labor may be predicted to follow from variations in the independent variables and their interactions. In Exhibit I below, is an illustration of the pattern of influences on departmentalization, when "client" is the primary independent variable, with the others intervening.

(Insert Exhibit I about here)

The cross boundary condition is important in comprehending the structure of the university. Educational establishments in general and universities in particular operate in conservative ways. In their value preservation function, they are called upon to make certain that the current generation of young people develops some sense of historical, methodological and self-consciousness (Bell, 1966). Such a continuing mission requires only gradual

Exhibit I

Variables Affecting the Form of Departmentalization in Universities

Cross-Boundary Conditions				Internal Conditions			
					Technology		
Client	Environmental Turbulence[1]	Manifest System Goal (Client Expectation)	Goal Clarity[2]	Sample Operational Goal[3]	Product Class[4]	Sample Processes (Faculty Role)[5]	Task Interdependence
Parents	Low	1. Cognitive: Historical, methodological, self-consciousness for students	Low	Know history of Greece	Data	Synthesis, Display	High
	Low	2. Affective: Personal growth for students	Low	Increased autonomy--	People	Counseling Modeling	Med Low
	High	3. Career training for students	High	Selling skills	People	Training	Low
Knowledge Community (academic)	Low	1. Elaboration and validation of old	High	Disproven theory	Data	Conduct survey	Low
	Low	2. Discovery of new	Low	New theory	Data	Synthesize	Low
		3. New sophisticated recruits to the profession	Low	Grad student knows research methods	Data	Synthesize Display	Med
Knowledge Community (Industry)	Med	1. Manpower req: skilled and trainable technicians	High	Selling skills	People	Training	Low
	Low	2. Upwardly mobile orientations or tolerance for blocks	Low	Experience in competition for grades	People	Testing	High
	High	3. New knowledge-practical findings	High	Export knowhow	Data	Writing Training	Low Low
	High	4. Human retooling-training, professionalization	High	Better skills	People	Training	Low
Government	Med	1. Aware & concerned citizens	Low	Know history of Greece; use in voting	Data People	Synthesis Training	High High
	Med	2. Leaders	Low	Skills	People	Training	High
Local Community	Med	1. Learning resource	Low	Available classes	Data	Scheduling	High
	Low	2. Culture center	High	Concerts	People	Scheduling	High
	High	3. Technical assistance	High	Sewer advice	Data	Synthesis	Low
	High	4. Participation in local community events	Med	Faculty in voter registration drive	People	Telephoning	Med
Undergraduate Students	High	1. Environment for development/pleasure	Low	Concern for learning	People	Counseling	Low
	Low	2. Knowledge	High	Why people behave	Data	Small classes	High
	Low	3. Certification	High	Degree	Data	Scheduling	Low
Graduate Students	Low	1. Programs leading to certification	High	Course in research methods	People	Small classes	Low
	Low	2. Knowledge and skills	High	Statistics	Data	Counseling	Low

1. The variability in the client population as well as the stability of the mean or normal expectation.
2. The degree to which the client is able to specify the expectation and/or the organization's output can be measured and evaluated
3. The resultant of the technological transformation.
4. The classification of the primary raw material to be transformed. The U.S. Employment Service typology of people, data and things is used here.
5. The range of activities required to be performed is on a continuum of high to low requiring a repertory of personal/professional skills or programs for transforming the product.

adjustments to changes in values external to the institution. Similarly, in its knowledge production function, the university utilizes existing knowledge and warrants new findings as valid only after slow and deliberate consideration. Both of these missions are dominated by norms and values internal to the institution and are little influenced by contemporary events in the environment. (There are, of course, exceptions, as when extreme environmental turbulence -- e.g., war -- changes the expectations that the society has for the university and calls upon it to be more directly involved in current events.)

Two other missions, knowledge dissemination and community service, because they are more current and pragmatic, depend more heavily on input from the environment. Hence, the internal organizational structure might be expected to reflect the more dynamic aspects of the conditions external to the university. Each of the missions involves a number of "task environments" (Thompson, 1967, p.27) for the institution's clients. Thus, in the exhibit, there are environments associated with parents, the knowledge community, industry, government, local community residents, and the students themselves. It might be presumed that for every expectation of the external system, there would be a corresponding functionally specialized sub-unit within the system (Dornbusch & Scott, 1975, p. 77; Becker & Neuhauser, 1975, p. 68; Simpson & Gulley, 1962). Such is not, obviously the case in universities as they usually are organized today.

The reasons are complicated, but they turn on the unique combination of inputs to the technology -- on the one hand, from people (students) and on the other, from the bodies of knowledge

extant. In a university, some of the services delivered and products produced are "knowledge based," while others are "client based." Some of the technologies required for the production of goods and services included in the university's missions demand a heavy reliance on faculty familiarity with specialized kinds of knowledge and their modes of access and expansion. The conduct of research is an obvious case in point. It requires intimate knowledge of the subject matter. On the other hand, quite a large number of faculty roles require more service skills than knowledge. Examples of these are lecturing (not, it should be noted, preparation of lectures), counseling, and leadership. Still others involve combinations of knowledge and client-centered orientations. These two dimensions are sometimes joined by a third, a "thing" centeredness (viz., the U.S. Employment Service's classification of occupations by "people, data and things" (USES, 1965)) when equipment design and utilization is important in teaching or research.

Instead of an anticipated specialized adjustment to the different environments and their differing technologies, university organizations have come to be structured around the academic department as a comprehensive, all-purpose unit (Lazarsfeld & Etzioni; 1965; Peterson, 1973). The department is a loosely organized aggregation of professionals which manages, with unequal effectiveness and efficiency, to meet each of the mission needs of the institution. While some faculty are knowledge specialists, some are also process or client specialists. Though the institution requires specialization according to tasks related to its separate missions, faculty are formally trained largely

as specialists in their field of knowledge and are expected to gain experience and skills as specialists in processes and clients (viz., the well-remarked training in research but not teaching). Accountability for performance in the various specializations possible, however, is most pronounced in universities with respect to knowledge production -- i.e., research. Here, output is more easily specified, and performance can be measured. On the other hand, processes involving personal/professional skills with respect to clients with unknown, or less known, learning characteristics, are not as easily measured, and proficiencies are allegedly more difficult to evaluate. In the university, then, the more quantifiable and empirically verifiable the output, the more accountability is possible. The more obscure or seemingly abstruse the process and/or client, the less observation takes place. In Perrow's terms, the search processes to analyze the problems of teaching are thought to rely upon a residue of "experience, judgment, knack, wisdom, intuition." (1970, p. 76). Moreover, there are many "exceptions" in the flow of stimuli to teachers. Hence, teaching becomes even more complex than a "craft." As will be noted later, this conception of teaching suffers from the limitation of the tradition of incorporating a large variety of presumably inseparable tasks in the teaching function.

The reward structure in higher education appears to ascribe to and follow a pattern of universalistic, meritocratic, rationalistic and achievement-oriented values (Parsons & Platt, 1973), though deviations from standard commonly exist (Lewis, 1975). The coincidence

of these values with research and its verifiable output and the higher status and prestige accorded nationally and professionally to outstanding research achievement make the departmental form of organization almost sacrosanct. The organization of the university by department, then, is in part a structural accommodation to the prevailing hierarchy of rewards for different kinds of academic work. Since research is at the peak of the ladder, the technology of the tasks associated with research dominates the institution's organization/accountability structure (Hughs,1958, p.121). Some of that technology involves proximity to colleagues with similar backgrounds, though most research, especially in the humanities and the social sciences, is performed alone. Access to external funding, also a technological feature, is facilitated by exchange of information among faculty working in the same discipline. Importantly, the aggregation of knowledge specialists together is commonly thought to derive from the needs for curricular planning. In point of fact, such coordination is a relatively minor part of academic life. The academic department apparently best suits the needs of the institution for <u>research</u> productivity, and that organizational form prevails despite criticism and some evidence that other missions suffer.

Whatever the manner of internal differentiation of function in the university, there are bound to be needs for coordination and control (Fayol, 1930; Miller, 1959). The greater the degree of specialization, the more the need for systematic linkages between operational units. The persistence of the departmental form of organization in higher education is a result of the above-noted value structure and the technology of research,

but it also is responsive to the resistance of academic professionals to bureaucratic scrutiny of their activities. Political and other cultural values thus override technological considerations (Udy, 1959, p. 126) which might argue for different structures. Indeed, the manifest reason for keeping the department is that coordination between institutional functions must be accomplished by the faculty member himself. That is, it is assumed that the linkages between roles across the university's missions can best be managed through individual efforts. Thus, research feeds into teaching and the converse. What is lacking in the assumption of required intra-personal coordination (i.e., by each faculty member) is the recognition that the personal linkage is most necessary for reasons of personal specialization, primarily within technological boundaries. Personal connections across faculty member roles is critical among knowledge-centered activities or among client-centered tasks, but not between knowledge-centered and process-centered roles, nor between roles across clients. For example, attention to student growth needs requires coordination between the teaching efforts of many faculty across disciplines. It also requires awareness of the relationships between such processes as lecturing and counseling or lecturing and evaluation. The special process skills in these last three are not necessarily enhanced by the knowledge-oriented skills such as research, either for class preparation or for publication. Though, of course, connections must be made, they can as well or better be bureaucratic and inter - rather than intrapersonal. As Katz & Kahn (1966, p. 437) point out in discussing organizational changes associated with longwall coal mining, "the skills which were separated out

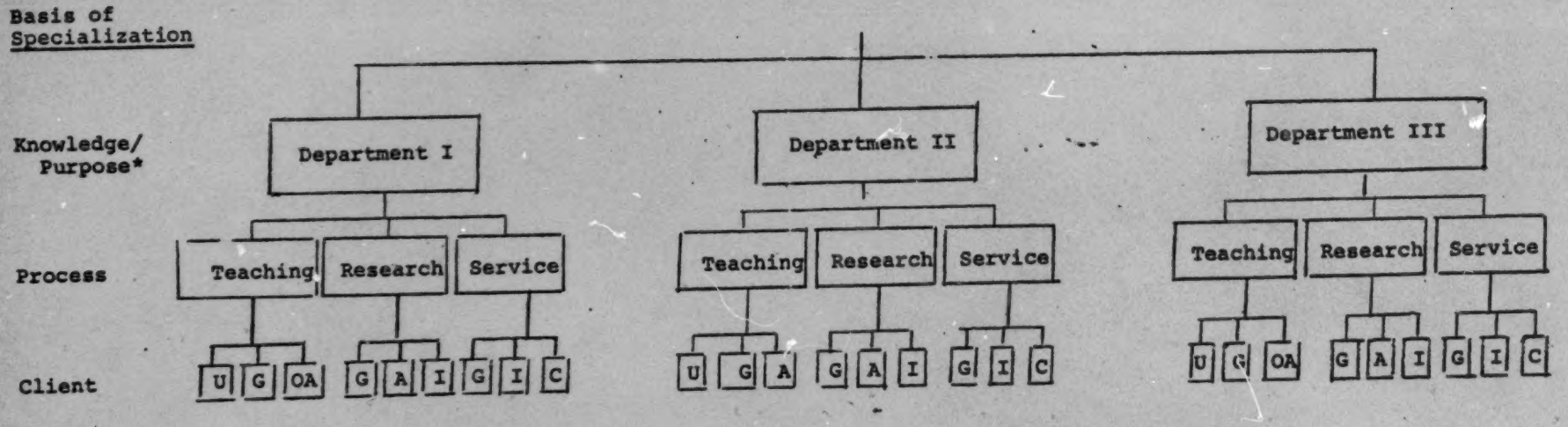
for specialization in the longwall system were not of such complexity or variety that their performance by a single worker prevented the attainment of a high level of efficiency. Moreover, the artificial distinctions between jobs failed to recognize a common underlying ability required of all miners," namely, the sensitivity to the dangers of working underground. In contrast to the longwall situation, there are faculty tasks in higher education requiring special skills of great complexity which can be separated out into specialized operational units. In addition, there seems to be little reason for believing that there is some underlying ability required of faculty across processes which would be lost in the specialization. The habit of assuming that personal coordination across subroles is a sine qua non of faculty role integrity is a strong one in higher education. The logic and empirical justification for it is called to question in this reaseach.

The present organization of universities is, then, first by category of knowledge (the departments by discipline), in turn divided grossly by process (teaching, research, and service), followed by further subdivision of each of the processes into clients (undergraduates, graduate students, outside constituencies, etc.). This arrangement is revealed in Exhibit II below.

(Insert Exhibit II about here)

In gross terms, then, faculty are expected under this organizational arrangement to be experts with respect to nine clients in three distinct process specializations, in one field of knowledge. In actuality, of course, each of these domains is broken down into a much larger set of expected personal competencies. For

Exhibit II
University Organization-Example A



(Key: U=Undergraduates G=Graduates OA=Older Adults G=Gov't A=Academy I=Industry C=Community)

*By definition, "if all the process specialties needed to produce a given socially valued end product could be placed in one unit, that unit...would be departmentalized by purpose rather than by process" (Thompson, 1961, P.45).

example, teaching can be subdivided into large and small classes, research into theoretical and applied and service into professional and personal. Note, in addition, that since in all complex organizations, there is a tendency among subunits to suboptimize (March & Simon, 1959, p. 152), a primary division by knowledge category predisposes the suborganization's members toward knowledge goals. Indeed, personal specialization by subfield of knowledge becomes the "product" goal of the sub-unit. Thus, the very structure of the organization constrains faculty to conceive of their primary obligations as dominated by the acquisition and transmission of knowledge, with processes and clients subordinated. Finally, note also that since the same clients and processes are duplicated across departments, some bureaucratic coordination is needed. For example, for undergraduate clients, there is typically a large contingent of student affairs personnel, while for teaching, coordination, to the extent that it exists, is managed by the academic affairs office and by university-wide faculty committees on teaching policy.

Clearly, in theory, alternative arrangements are possible:

(Insert Exhibits III & IV about here)

In the first instance, Exhibit III, the primary division of labor is by process. In this case, the teaching tasks are grouped organizationally together, with subunits then being formed according to client. Faculty who have skills in the task speciality of teaching undergraduates in, say, sociology, would be associated with such a unit. In similar fashion, faculty with research skills applied to governmental needs would be

Exhibit III
University Organization-Example B

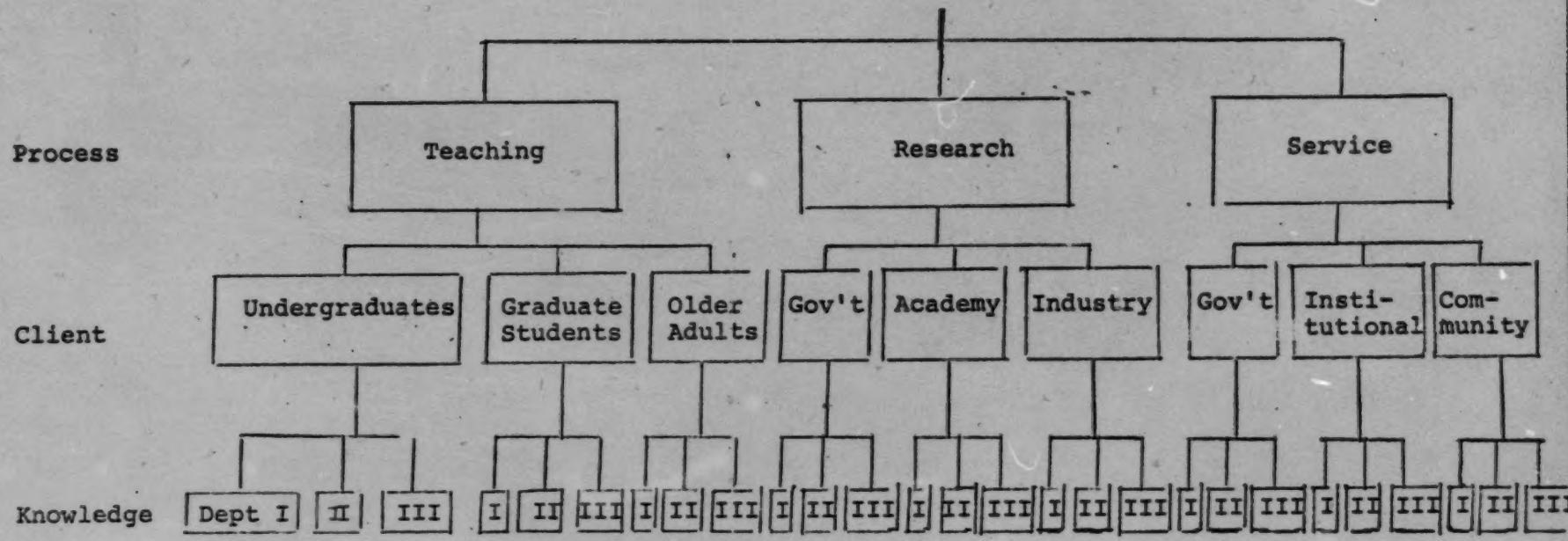
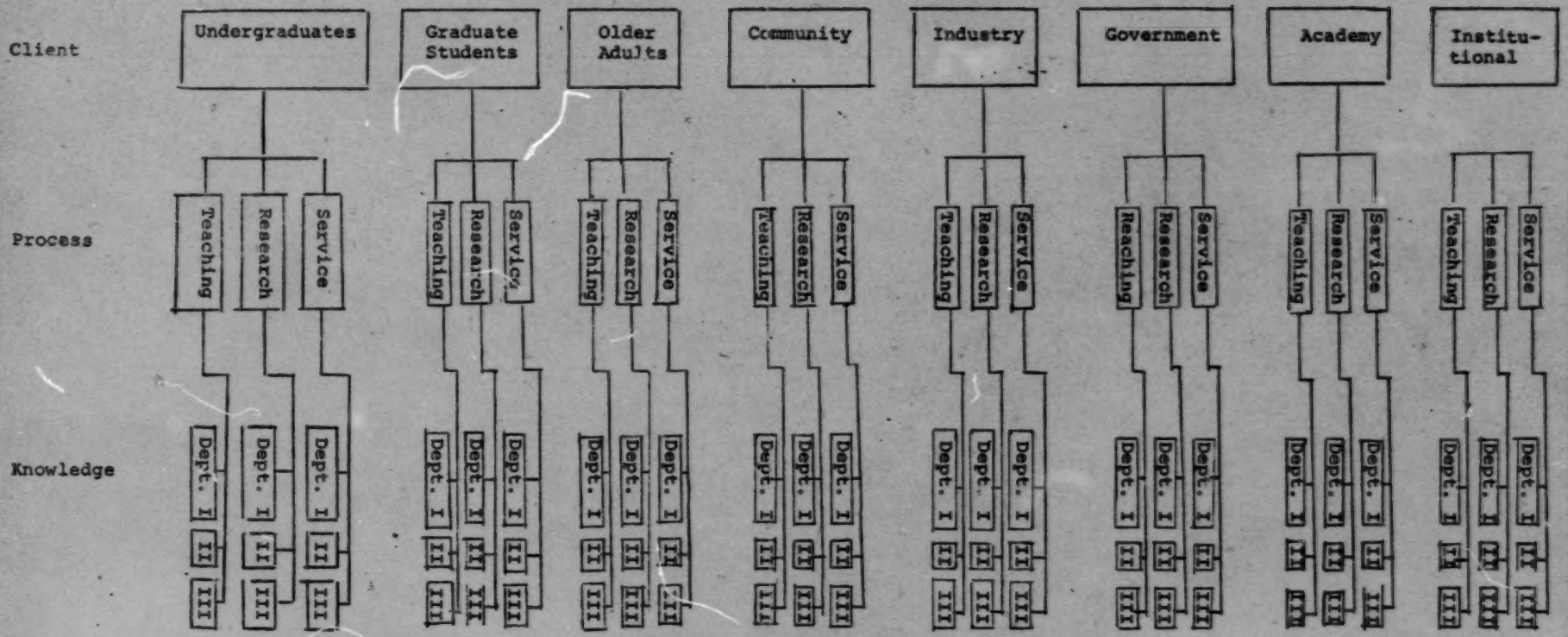


Exhibit IV
University Organization-Example C*



*Not all process boxes would be occupied under this structural arrangement

assigned to that unit. Note here, however, that the problems of coordination are reduced. Process specialists have no organizational (as opposed to personal or professional) need for linkage across processes. Organizational arrangements such as are suggested by Exhibit III have been attempted at various times and in various places, but have generally failed because of invidious status distinctions among process specialties and the retention of the knowledge department as a "home" unit.

In Exhibit IV, clients are the first cut in the division of labor. Here a smaller number of linkages across organizational units are necessary, partly because organization by client comes to overlap organization by product, since only those processes uniquely needed for the client are aggregated in the unit. Communication and coordination are required among knowledge specialists with respect to the curriculum planning "process," however. But this is itself a specialized role for a small number of faculty.

Still other configurations are possible via the remaining permutations of the three criteria of departmentalization noted here. Thus, the hierarchical form could be knowledge-client-process, process-knowledge-client or client-knowledge-process. It should be clear that the two major considerations in determining which of these systems is most efficient are the expenses of bureaucratic coordination and the duplication o process/knowledge specialists (ignoring, for the moment, questions of quality of output). Organizational size (Rushing, 1967; Blau & Schoenherr, 1973) seems to have the greatest bearing on these questions. If the university is too small to have knowledge or knowledge/

process specialists fully utilized in a decentralized, client (qua product) system, then it will assume the structure in Exhibit II. In a small college, for example, it is usually not possible to have an urban sociologist employed full time just teaching undergraduates, another just teaching graduate students, another doing research, etc.

On the other hand, it is conceivable that in a very large university, there are sufficient demands by particular clients for such a volume of specialized services that for limited times a faculty member might contract him or herself to one of the client units exclusively.

The present situation in universities has not dictated a move in that direction, however. Even when size has been sufficient, faculty have preferred to be organized in academic departments specialized by knowledge. The reasons have been noted above.

For the research in this study, it was assumed that specialization by academic area was only one basis for departmentalization. It was further assumed that task specialties could be organized around either processes or clients or knowledge. At issue was whether faculty would prefer to have their personal specializations organized along alternative task dimensions than at present and whether such an organization would also meet institutional goals.

Description of the Research

There is some considerable support in the literature of organizational theory for the hypothesis that both organizational

needs and individual needs are more satisfied when work activities are so arranged so that individuals perform in areas which are of basic interest to them and in which they have some talent and skill (Argyris, 1964; Likert, 1967; McGregor, 1960). There has been little or no formal research effort directed at testing this hypothesis in higher education. As noted above, the major purpose of the research was to determine if all of the required faculty activities in universities could be reorganized so as to permit a better accommodation of individual and institutional needs. "Accommodation" meant the organization of required institutional tasks according to faculty preferences in ways which would simultaneously meet the needs both of faculty and institution. "Organization" implied the aggregation of units of work behavior into structured roles and concomitant responsibilities. That is, discrete tasks would be assembled conceptually into new structures which would be linked organizationally by expectations of instrumental activity and of quantity and quality of output. Organizational roles would be occupied by faculty members and governed by both formal and informal norms. (The exact nature of the linkages between roles -- the administrative connections -- was not explicitly an objective of the research.)

The question was begged of the quality and quantity of need fulfillment for both individual and institution. Since the task descriptions dealt only with content rather than context matters (Herzberg, 1966), it was assumed that important higher-order needs of faculty members (Maslow, 1954) were being addressed. That is, faculty members were not asked for their preferences for such working conditions as office space, secretarial

assistance, salary and fringe benefits, and most of the other job-associated features frequently incorporated into collective bargaining contracts currently being negotiated. Instead, they were requested to give their preferences for tasks themselves on the basis of the intrinsic satisfactions they provided (Deci, 1975; Staw, 1976; McReynolds, 1971; Day, Berlyn, & Hunt, 1971). Again, this is discussed more fully below.

Some Assumptions

Several simplifying assumptions about institutional needs and their satisfaction were made to facilitate the study. First, present institutional goals were taken as given and were assumed to be achieved at minimum if all the tasks now required of faculty could at least be accomplished at some level under the new organizational arrangements. Second, it was assumed that highly motivated employees (i.e., those performing only those tasks from which they derive intrinsic rewards) will produce at higher levels of quality and quantity than would be the case if employees are constrained to do jobs which they find distasteful and unrewarding.* Third, it was assumed that since institutions are more successful when they are adaptive to external conditions (Katz & Kahn, 1966), an organization with a flexible role structure which would permit employees more options for change than now exist would meet this institutional need more successfully.

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*Note: Though critical to the study, this assumption is somewhat tenuous, given the continuing debate in the literature about the causal relationships between productivity and satisfaction.

The Task Clustering Theory

The approach to clustering used in the research was essentially a disaggregation-reconstitution model (Nadler, 1963). Through reviews of the literature, interviews and questionnaires an item pool of 320 faculty activities was assembled into the five traditional organizational groupings: graduate education activities, undergraduate education activities, research and professional activities, community service activities and administrative service activities. The pool was intended to be exhaustive of the set. Indeed some activities not normally included were added to the pool. The level of specificity of the task description and the definition of a "behavior episode" were determined a priori so that uniformity in the item writing would obtain (Melching, 1973; Dept. of Labor, 1972; Riccobono & Cunningham, 1971; Weick, 1965).

A questionnaire was drawn up, pretested and mailed to a random sample of faculty at six universities. Eight hundred and twelve responses were returned for a rate of 40%. A separate single-page questionnaire sent out to determine the nature of potential bias revealed no significant differences in demographic characteristics. The questionnaire asked faculty to rate each of the activities on a scale of 1-5 in terms of whether they "like" to do the activity because of its intrinsic reward. It urged faculty to disregard compensation and status presently accorded to the tasks and to assume that the latter were available in optimum amounts for each of the activities chosen.**

**Note: though the questionnaire stressed this hypothetical situation frequently, it is possible that both theoretically and practically, respondents were not fully able to remove themselves from their work and social contexts.

The writing of the items for the questionnaire was limited somewhat by the absence of existing models on which the probable new clusters of preferred activities could be based. Several reasonable alternatives were proposed spanning the ideographic to nomothetic continuum. For example, it was conceivable that "trait" analysis would yield some clusters of activities which were responsive to faculty with similar personalities. It was equally reasonable to believe that situational conditions would determine the clusters -- that is, that there were activities which, by virtue of their similar natures, would be preferred by groups of faculty. In the latter case, the clusters which might emerge could fall into the categories of organizational division of labor noted earlier: process, product/purpose, client, place. Finally, some faculty might prefer activities which are united by virtue of their knowledge base. To give some idea how clusters of faculty preferences would look if they fell into these domains, a few examples are given in Exhibit V below:

(Insert Exhibit V about here)

Depending on the faculty member, the same activity might be valued for the degree to which it partakes of any one or several of the organizing principles. As an example, one item in the questionnaire might have been "Counsel disadvantaged students in off-campus satellites." For one group of faculty, this activity would be linked by preference with other counseling activities. For another group, it would be associated with other remedial activities, for still another with all off-campus activities, etc.

It should be recognized in reviewing the above principles that they are at a fairly high level of abstraction. There are several

Exhibit V

Sample Clusters According to Organizational Principle

Organizing Principle	Example	Sample Activities in Cluster For Example
Trait	Extroversion	Activities in which extroverted faculty would find opportunities for expression
Process	Counseling	Activities such as meeting students in offices, helping colleagues on research and personal problems, giving graduate students advice on career options, community counseling
Product/ Purpose	Achieving individual student autonomy	Activities which students learn and do by themselves with decreasing faculty contact
Client	All undergraduates needing remedial education	Activities such as improving writing skills, library skills, other communication skills
Place	Off campus	Activities such as supervising internships, planning overseas experiences, consulting, collaborative research at other campuses
Knowledge	Clinical psychology	Activities dependent on the literature in clinical psychology or on clinical skills

different kinds of extroversion, counseling, autonomy, remedial education, off-campus locations and clinical psychology. Moreover, as noted earlier the nature of the work itself can be subjected to such classification systems as routine vs. non-routine, concrete-abstract, things or people-oriented, certain vs. uncertain outcome, and the like.

In view of the complexity of the interacting theoretical approaches and because this domain of research on faculty was relatively uncharted, an exploratory rather than a hypothesis testing method of attacking the problem was selected. Cattell's statement (1952) provided some additional rationale for this approach:

> The factor analyst is suspicious of choosing the important variables a priori, no matter how self-evident their significance may seem to the experimenter. He would like to find the real independent factors, the true functional unities, i.e., the independently acting influences, before entering and experiment with them.
>
> Particularly in the biological and social sciences the researcher is presented with so bewildering a multitude of possible variables that unless he first factorizes to find the inherent organization or "structure," i.e., to find which surface variables are representatives of more significant, less numerous underlying variables, an immense waste of effort could (and does!) take place.

The following specific questions guided the inquiry:

1. What constellations of faculty activity preferences exist? That is, what combinations of activities are preferred by faculty? How do these compare with constellations of present activities?

2. Are there sufficient numbers of faculty with distinctive personal activity preferences to perform all of the institutionally required functions now demanded of faculty?

3. Are different activity constellations preferred by faculty of different ages? In different fields? How might these constellations contribute to faculty life cycle and career development?

5. If all present activities are not preferred by a sufficient number of faculty, what kinds of new professional or subprofessional groups are needed to fill in the gaps?

6. What kinds of academic administrative organization would be needed to accommodate and hold accountable groups of faculty performing more functionally specialized roles

7. What dangers to academic freedom are likely if faculty work patterns are reorganized?

8. What new national professional organization would have to be organized to give status and recognition to each of the new faculty activity constellations or roles?

Data Analysis

Since the data matrix generated by the over 800 faculty responses to a questionnaire with 320 items was extremely large, some reduction of the data was required before the questions above could be addressed. Through pre-testing, it was found that faculty were resistent to the completion of a randomized, 320-item questionnaire. Not only was the length oppressive, but the difficulty of shifting frequently among different kinds of activities--research to teaching to service to teaching, etc. -- made responding burdensome. When the item means of a non-randomized version of the pretest questionnaire were compared with those in the randomized version, no consistent bias appeared. Accordingly, each of the items was assigned for ease of response to one of five groups: graduate education activities, undergraduate education activities, research and professional activities, community, and administrative service activities. While no effort was made to secure the validation of this assignment through the use of impartial judges, five persons on the research staff were in agreement on the placement.

Despite the size of the matrix, a principle component analysis with varimax rotation was attempted on the split halves (alternate items) of the questionnaire. The result was unsatisfactory. While a few new factors could be identified, and several closely resembled the initial groupings on the questionnaire (namely, graduate education activities, undergraduate), a large general factor accounted for most of the explained variance, which in total was too low to be useful. A closer look at the correlation matrix revealed that the correlations within each of the five traditional groupings into which the items in the questionnaire had been placed were generally higher than the correlations between items across the categories. It is possible that in the final questionnaire a response bias by correlation was generated through the traditional grouping such that the principle of process or purpose was more influential in the pattern of answers than some of the other principles (e.g., traits/personalities).

In an effort to remove some of the bias, and at the same time to test for the existence of cross-category factors resulting from some other clustering principle, a factor analysis <u>within</u> categories was attempted. It was reasoned that this might create a smaller set of factors which, with the aid of varimax rotation, would remove some of the tendency of items or groups of items (the new factors) within the categories to be highly correlated with one another. The result of this effort was the development of a set of sixty-nine scales in the following proportions:

Category	Number of Original Questionnaire Items	Number of Scales
Graduate Education Activities	48	12
Undergraduate Education Activities	90	17
Research and Professional Activities	63	17
Community Service Activities	49	10
Administrative Service Activities	70	13
Total	320	69

Each of the scales was comprised of several items (with two exceptions). Kuder-Richardson tests of internal reliability were conducted, and items were deleted or added to assure high alpha levels. The KR-20 scores were typically in the .80 range. Item-to-scale correlations were computed to assure that no item was more highly correlated with a scale other than that generated through the factor analysis.*

Findings

Some greater understanding of the nature of preferred roles can be obtained through inspection of the scales generated from within-category factor analysis.

(Insert Exhibit VI about here)

While none of these "new" roles may appear as unusual in the sense that they represent combinations of tasks not heretofore conceived as organizationally legitimate, what is remarkable is the subdivision of larger roles traditionally considered together. For example, it is clear from these data that "graduate student thesis development" is a distinct kind of activity which may

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*See Appendix A.

Exhibit VI

Scale Names Generated Through First-Order Within-Category Factor Analysis

Graduate Education Scales

Instruction to Graduate Students--General
Remedial Instruction
Thesis Development
Post-Doctoral Work
Instruction to Adults in Continuing Education
Curriculum Development
Evaluation of Student Papers
Evaluation of Graduate Degree Requirements and Student Progress
Research with Graduate Students
Non-Academic Services
Placement
Attending to Personal Needs

Undergraduate Education Scales

Instruction to Undergraduates (Heavy Load)
Remedial Instruction
Introductory Level Instruction
Student-Paced Learning and Grading
Overseas Instruction
Instruction Through Field Work
Instruction in Discussion Classes
Instruction in Large Classes
Traditional Structured Teaching
Innovative/Experimental Instruction
Collaborative Instruction
Curriculum Development and Performance Evaluation
Career Guidance
Informal Interaction
Attending to Personal Needs
Proselytizing

Research and Professional Activities

Long-Term Theoretical Research
Empirical and Quantitative Research
Non-Empirical Library Research
Highly Specialized Research
Off-Campus Research
Cross-Disciplinary Research
Multi-Project Research
Collaborative Research
Short-Term Projects
Writing
Editing, Rewriting and Reviewing
Impacting the Discipline Through Evaluation and Editing
In-Person Professional Presentations
Consulting/Field Work
Keeping Up To Date
Grant Proposal Preparation
Promoting Social Integration

Exhibit VI
(Continued)

Community Service Activities

Service to Helping Professions
Service to Religious and Charitable Organizations
Service to Local Protection Agencies
Increasing Lay Public Awareness of Field
Professional Services to Governmental Agencies in Knowledge Dissemination and Skill Development
Promoting Local Culture
Dealing with Housing and School Issues
Exerting Political Influence
Involvement in Local Causes
Increasing Personal Visibility

Administrative Service Activities

Directing Departmental Graduate Program
Directing Departmental Undergraduate Instruction and Teaching Improvement
Non-Academic Undergraduate Student Services
University Governance
Educational Leadership/Statesmanship
Decision-making on Tenure and Programs
Handling Bureaucratic Detail
Securing and Distribution of Resources
Conference and Facilities Planning
Attention to Matters of Justice and Equity on Campus
Improving the Esthetic Environment
Offering Personal Counseling to Colleagues
Institutional and Program Evaluation

be preferred by one group of faculty and not another. Commonly, that role is not broken out for assignment to separate faculty. Similarly, instruction through field work, instruction in discussion classes, editing, rewriting and reviewing, and various institutional and community services have here been identified as unique preferred roles.

The sixty-nine roles can be organized in a large number of ways. It will be noted that most of them can be subsumed simultaneously under two or more of the organizational principles noted in Exhibit V (trait, process, product/purpose, client, place or knowledge). For illustration, one model of organization -- the traditional one, on the basis of "mission" -- can be considered here.

(insert Exhibit VII about here)

Note that under this strategy, there are eighteen major role categories within which a number of subroles are incorporated. It is conceivable that faculty could elect a portion of the eighteen for limited periods of time under a flexible role option contract system. Assuming for the moment the integrity of each of the eighteen roles in terms of similarity of faculty preference across subroles, the organizational feasibility of this eighteen-part structure might be examined. Since, however, the goals and goal emphases of an institution dictate the specific manpower requirements for each role,* only a guess can be made as to the probability that faculty in sufficient numbers exist to accomplish all of the

*For example, an institution with a heavy emphasis on undergraduate education would require greater staffing in that area.

EXHIBIT VII
Organization of Roles by "Mission"

Fulfilling the Educational Missions of the Institution

EA. Instruction - General

1. Instruction to Graduate Students
2. Instruction to Undergraduate Students

EB. Instruction to Special Constituencies

1. Remedial Undergraduate Instruction
2. Introductory Level Instruction
3. Remedial Graduate Instruction
4. Graduate Student Thesis Development
5. Work with Post-Docs
6. Instruction to Adult Graduate Students

EC. Instruction in Unique Styles or Settings

1. Innovative Instruction
2. Individualized Instruction
3. Student-Paced Learning and Grading
4. Instruction Overseas
5. Instruction Through Field Work
6. Instruction in Discussion Classes
7. Instruction in Large Classes
8. Traditional Structured Teaching
9. Collaborative Instruction

ED. Curricular Planning and Program and Student Evaluation

1. Undergraduate Curriculum Development and Performance Evaluation
2. Graduate Education Curriculum Development
3. Evaluation of Graduate Student Papers
4. Evaluation of Graduate Degree Requirements and Student Progress
5. Institutional and Program Evaluation

Fulfilling the Knowledge Production Missions

KA. Research-General

1. Long Term Theoretical Research
2. Empirical and Quantitative Research
3. Non-Empirical Library Research

KB. Research-Special

1. Highly Specialized Research
2. Off-Campus Research
3. Cross-Disciplinary Research
4. Multi-Project Research
5. Collaborative Research
6. Research With Graduate Students
7. Short Term Projects

KC. Disseminating Knowledge

1. Writing
2. Editing, Rewriting & Reviewing
3. Impacting the Discipline Through Evaluation and Editing
4. In-Person Professional Presentations

KD. Consulting

1. Consulting - Field Work

Fulfilling Community Service Missions

CA. Professional Services

1. Service to Helping Professions
2. Service to Religious and Charitable Organizations
3. Service to Local Protection Agencies
4. Increasing Lay Public Awareness of Field
5. Professional Services to Governmental Agencies in Knowledge Dissemination/Skill Development

CB. Services As Citizens in the Community

1. Promoting Local Culture
2. Dealing With Housing and School Issues
3. Exerting Political Influence
4. Involvement in Local Causes

Providing Institutional Services

IA. Professional Services to Colleagues

1. Keeping Up to Date With Developments in Field
2. Grant Preparation and Proposal Writing

IB. Services to Students

1. Directing Departmental Graduate Program
2. Non-Academic Graduate Student Services
3. Graduate Student Placement
4. Directing Departmental Undergraduate Instruction and Teaching Improvement
5. Non-Academic Undergraduate Student Services
6. Undergraduate Career Guidance

IC. Attending to Others' Personal Needs

1. Attending to Graduate Students' Personal Needs
2. Informal Interaction With Students
3. Attending to Students With Special Personal Problems
4. Promoting Social Integration
5. Offering Personal Counseling to Colleagues

ID. Leadership

1. University Governance
2. Educational Leadership/Statesmanship
3. Decision-Making on Tenure and Programs

IE. Administration

1. Handling Bureaucratic Detail
2. Securing and Distribution of Resources
3. Conference and Facilities Planning

IF. Justice & Equity

1. Attention to Matters of Justice & Equity on Campus

IG. Personal Need Fulfillment

1. Proselytising
2. Increasing Personal Visibility

IH. Environmental Improvement

1. Improving the Esthetic Environment

missions effectively. It is possible to use the existing curriculum and staffing rules as a model and turn to the data to ask whether the model could be maintained with a reassignment of faculty according to personal preference. Thus, the question might be asked, "if we maintain the same number of large introductory classes, intermediate level classes, seminars and labs, are there enough faculty who would wish to increase their commitment to these activities to permit others to be released to activities in other domains"? Equally desirable is an examination of the data with a view to fulfilling the objectives of the institution in ways which may depart from the traditional in order to achieve the goals at higher levels of quality.

Because of these ambiguities, it may be more instructive to inspect the data without any requirement that a reorganized role structure meet either present or other hypothesized institutional goals.

(Insert Exhibit VIII about here)

From this perspective, these particular data are revealing of surprising faculty dispositions. For example, an unusually large number of faculty (44%) like to engage in career guidance for undergraduates, a finding suggestive of considerably less resistance to this kind of activity than one might expect.

Introductory level instruction is liked by almost a third of the faculty. Since in many cases this activity is relegated to graduate assistants because of presumed lack of faculty interest (more likely because it has come to have lower status),

EXHIBIT VIII

ROLE PREFERENCES OF UNIVERSITY FACULTY *

AVERAGE **	RANK	PERCENT OF FACULTY SCORING 4.0 OR MORE	
4.0	1	67	Instruction to Graduate Students (EA1)
3.9	2	57	Long Term Theoretical Research (KA1)
3.9	2	52	Keeping Up-to-Date With Developments in Field (IA1)
3.9	2	53	Instruction in Discussion Classes (EC6)
3.7	5	52	Promoting Social Integration (IC4)
3.7	5	44	Undergraduate Career Guidance (IB6)
3.6	7	50	Off-Campus Research (KB2)
3.6	7	38	Consulting - Field Work (KD1)
3.6	7	37	In-Person Professional Presentations (KC4)
3.5	10	35	Innovative Instruction (EC1)
3.5	10	34	Graduate Student Thesis Development (EB4)
3.5	10	42	Writing (KC1)
3.5	10	34	Research With Graduate Students (KB6)
3.4	14	25	Informal Interaction With Students (IC2)
3.4	14	32	Attending to Graduate Students' Personal Needs (IC1)
3.4	14	51	Specialized Research (KB1)
3.4	14	26	Collaborative Research (KB5)
3.3	18	45	Short Term Research Projects (KB7)
3.3	18	34	Work With Post-Docs (EB 5)
3.3	18	36	Non-Empirical Library Research (KA3)
3.3	18	33	Multi-Project Research (KB4)
3.3	18	44	Instruction to Adult Graduate Students (EB6)
3.3	18	24	Collaborative Instruction (EC9)
3.2	24	29	Proselytizing (IG1)
3.2	24	24	Increasing Lay Public Awareness of Field (CA4)
3.2	24	26	Empirical and Quantitative Research (KA2)
3.2	24	31	Introductory Level Instruction (EB2)
3.2	24	20	Individualized Instruction (EC2)
3.2	24	16	Traditional Structured Teaching (EC1)
3.2	24	24	Student Paced Learning and Grading (EC3)
3.2	24	29	Instruction Overseas (EC4)
3.2	24	22	Graduate Student Placement (IB3)
3.0	33	23	Remedial Graduate Instruction (EB3)
3.0	33	28	Graduate Education Curriculum Development (ED 2)
3.0	33	21	Impacting the Discipline Through Evaluation and Editing (KC3)
3.0	32	16	Professional Services to Governmental Agencies (CA5)
3.0	32	17	Conference and Facilities Planning (IE3)
3.0	32	12	Institutional and Program Evaluation (ED5)
3.0	32	19	Directing Departmental Graduate Program (IB1)
2.9	40	10	Decision-Making on Tenure and Programs (ID3)
2.9	40	19	Instruction Through Field Work (EC5)
2.8	43	21	Evaluation of Graduate Student Papers (ED3)
2.8	43	13	Cross-Disciplinary Research (KB3)
2.8	43	17	Attending to Students with Special Personal Problems (IC3)
2.8	43	14	Educational Leadership/Statesmanship (ID4)
2.7	47	15	Directing Departmental Undergraduate Instruction and Teacher Improvement (IB4)
2.7	47	15	Increasing Personal Visibility (IG2)

* Six University Campus Sample. Roles are composites of questionnaire item responses. Letters in parentheses refer to role definitions appearing in Appendix A.

** Scale: 1=Like Very Little 5=Like a Great Deal

Exhibit VIII (Continued)

AVERAGE	RANK	PERCENT FACULTY SCORING 4.0 OR MORE	
2.7	47	10	Evaluation of Graduate Degree Requirements and Student Progress (ED4)
2.7	47	7	Undergraduate Curriculum Development Performance Evaluation (ED1)
2.6	51	16	Instruction in Large Classes (EC7)
2.5	52	22	Offer Personal Counseling to Colleagues (IC5)
2.4	53	9	Instruction to Undergraduate Students* (EA2)
2.4	53	7	Non-Academic Student Services for Graduate Students (IB2)
2.4	53	6	Involvement in Local Community Causes (CB4)
2.4	53	6	Promoting Local Culture (CB1)
2.4	53	9	University Governance (ID1)
2.3	58	3	Non-Academic Student Services for Undergraduates (IB5)
2.3	58	7	Dealing With Housing and School Issues (CB2)
2.3	58	7	Grant Preparation and Proposal Writing (IA2)
2.3	58	15	Improving the Esthetic Environment (IH1)
2.3	58	6	Remedial Undergraduate Instruction (EB1)
2.2	63	7	Exerting Political Influence in Community (CB3)
2.1	64	3	Service to Helping Professions (CA1)
2.1	64	6	Service to Religious and Charitable Organizations (CA2
2.1	64	2	Attention to Matters of Justice and Equity on Campus (IF1)
2.0	67	1	Handling Bureaucratic Detail (IE1)
1.9	68	1	Securing and Distribution of Resources (IE2)
1.6	69	3	Service to Local Protection Agencies (CA3)

* Heavy Load

it is conceivable that there are more faculty available than formerly believed who could be recruited to address beginning student needs. The finding that fully 16% of the faculty like to teach large classes (despite its general lack of appeal--ranking 50th out of 68), implies that the predominant practice of teaching freshman classes in huge lecture classes might not need to be abandoned, provided those faculty who most like to do this kind of teaching can be properly rewarded.

Another activity typically considered less desirable by faculty is remedial education. For this sample, it ranked 57th out of 69; but note also that six percent of the faculty like to offer this kind of instruction a great deal. For a faculty of 1,000, this means that there are sixty such persons interested in bringing slow learners up to institutional standards, probably in more humane and less stigmatized ways than now exist.

The fact that for these sample data only 10% of the faculty claim to like to be involved in decision-making on tenure matters and program evaluation is also of interest. The implication is that if they felt reasonably certain that the exercise of power and judgment in these matters were judicious, they would as soon leave these matters to others. A related finding is that only 9% wish to spend time in university governance matters. Doubtless this is, at least in part, the group of 90 faculty members of the 1,000 who regularly attend meetings of the faculty senate, but it should be noted that such an activity presently receives virtually no formal reward at most universities.

At least seventy of this hypothetical group of 1,000 want to be engaged in undergraduate curriculum development and performance

evaluation. Fifteen percent would be interested in improvement of undergraduate teaching. Twenty-three percent like to do remedial graduate instruction. Here, then, are resources of which most academic leadership is only dimly aware. Faculty liking for these activities is buried in their enforced orientations toward activities which have higher status and are more positively rewarded.

It needs to be reiterated that the above data are for only one sample of faculty. Faculty at other institutions might have an entirely different set of interests and likings which in turn could suggest quite different kinds of organizational arrangements. In some cases a campus might find that there are insufficient numbers of faculty who like to engage in activities which the institution has deemed as necessary for the achievement of its educational objectives. In this case, it might follow that either new kinds of faculty would have to be recruited (an appropriate hiring policy would have to be developed), or paraprofessionals might be hired to do those things that faculty as a profession will not do, or some policy of equal sharing of the allegedly "unpleasant" work must be devised.

The data appear to point to the conclusion that there is nothing inherent in the technology or goal structure generated by the environmental pressures from the university's different clients which would prevent the institution from reorganizing around faculty interests. Intrinsic satisfactions from the work itself are available in sufficient variety to suggest many

possibilities for restructuring the university. The question remains as to what kind of structure would be suggested solely by faculty preferences.

If the sixty-nine roles are subjected to a second order factor analysis, roughly ten macro-roles emerge. These may be considered as a basis for planning a new university structure.

(Insert Exhibit IX about here)

Inspection of the character of the roles reveals that they do not appear to differ significantly from those "processes" normally performed in universities. Grouping four (research and writing, off-campus service, and instruction and personal service under the rubric of "goal attainment" functions (Parsons, 1951; Parsons & Smelser, 1956), these can be seen as the traditional "missions" of the university. Two other role-processes can be catagorized as "adaptation", another of the Parsonian prerequisites. Thus, evaluation and administrative review can be conceived as instrumental activities in service of the institution's goal achievement efforts. Finally, the intergrative/latency functions are served through two processes -- environmental intervention and latency.

Before discussing the components of each of the roles, it is useful to reflect on the finding that personal preferences of organizational members can be differentiated into the same functional categories as those for organizational prerequisites. That is. the organization's needs (the requirement that it meet certain conditions requisite to its continued functioning with respect to its environment) can be accommodated by the predilections of organization members for tasks when the latter are aggregated in a similar manner. Needs at

Exhibit IX

Distribution of Faculty Preferences Across Ten Macro-Role/Processes

Role/Process	Mean Preference*
Teaching Graduate Students	4.0
Latency	3.2
Research & Writing	3.2
Introductory Teaching	3.0
Undergraduate Teaching	3.0
Evaluation	2.8
Off-Campus Service	2.7
Environmental Intervention	2.4
Personal Service	2.4
Administrative Review/Influence	2.2

* Scale: 5=Like Very Much
1=Like Very Little

the organizational level, then, appear to be isomorphic with collevtive needs at the personality level. The idiographic and nomothetic dimensions overlap.

Note, however, that the preferences of faculty are given in the abstract. Faculty were asked in the questionnaire to disregard the present reward structure (implicitly, the existing organizational structure) and to assume that rewards were optimal for each of the tasks they liked for the intrinsic satisfactions provided. Thus, the factor structure reflects an idealized set of collective orientations. But, importantly, the unit of analysis varies. For the organization, differentiation of function into structures corresponding to total system prerequisites may match aggregate faculty preferences but not necessarily each individual's preferred set of roles. It is likely, moreover, that there are faculty with strong predilections for some of the goal attainment functions and weak dispositions toward some of the adaptation functions -- and the converse. The central question of the research, to reiterate, was to determine whether it was possible to structure the organizational system to match faculty needs as those latter may themselves be differentiated by different hierarchies of preferences among a number of subgroups of faculty. Are there, in other words, subaggregates of like-minded faculty who would be willing to perform the tasks required by the organization?

From Exhibit IX the distribution of faculty preferences across these macro-roles can be seen. (Exhibit VIII gave the rank orders of preferences for all sixty-nine roles.) Without an explicit statement of goal priorities for an institution, or an operationalization of their various strengths, it is difficult to determine whether

sufficient numbers of faculty can be marshalled to perform each of these macro-functions. It is possible, on the other hand to make some judgments about how the sixty-nine sub-roles and their associate tasks can be structured to carry out the macro-functions most efficiently, while at the same time maximizing personal faculty satisfactions.

Efficient Division of Labor

Organizational efficiency can be improved through structural planning, according to several critical principles (Chapple and Sayles, 1960). First, the amount of inter-unit dependency should be as low as possible in order to minimize the costs of administrative coordination (Miller, 1959). Second, the amount of intra-unit loyalty and identification with unit goals and norms should be increased, subject to cost constraints and up to the point where optimization of sub-unit goals causes a costly diversion from the goals of the institution as a whole (Selznick, 1957, p. 58; Dufty, 1966).

To reduce inter-unit dependency, sets of tasks or roles which are related to one another by necessary timing and sequencing can be grouped in self-contained units (Hickson, Pugh and Pheysey, 1969; (Galbraith, 1973, p. 26). In such units, all the major resources needed to provide the service or produce the output are contained within the unit (Thompson, 1965, p. 45).

> For example, if the services of 15 different specialities are required to produce an organization's product lines, then a choice must be made when product divisions are created as to which services will be contained in the divisions and which will remain centralized in the corporate office. In general, the diversity of the outputs and the greater the task uncertainty, the greater the self-containment. (Galbraith, 1973, p. 27)

The creation of self-contained units in a multi-purpose organization is facilitated by a specialization of function by unit (as opposed to specialization by person) serving the separate goals. This important relationship between specialization by person and specialization by task (Thompson, 1965, Ch. 3; Tyler, 1973) is discussed more fully below. The point here is that grouping related tasks instead of like-minded people together contributes to greater organizational effectiveness (Pelz and Andrews, 1966). The heterogeneity of tasks performed by professionals singularly oriented toward the outcomes of those tasks creates a cross-fertilization of ideas and an identification with recognizable unit goals.

Empirical research reported in the literature supports the notion that when such task-related units are also differentially structured to meet client needs in the external organizational environment which have varying degrees of uncertainty, there is a higher level of performance (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Simpson and Gulley, 1962). Traditionally, in higher education, specialization has centered on the differences among the disciplines of knowledge, not difference among clients. As noted earlier, such a division serves the technology of research by making the department self-contained largely around research tasks, but it ill serves the other functions of the university -- teaching and service. The timing and sequencing of tasks required for effective undergraduate teaching, for example, require a different sort of self-contained unit based not alone on knowledge of research content and skills but on pedagogical and other techniques. The aggregation into multi-purpose departments of faculty who allegedly have a number of personal specializations matching the goal structure of the department institution

is not as efficient as the aggregation of faculty with the skills necessary to carry out required activities in self-contained task units oriented toward each of the goals of the institution. In effect, the principle of self-containment by task is violated when the institution is the unit of analysis. That is, though the disciplinary department may conceive of one of its goals as the teaching of one subject to, say, undergraduates, and contains within its boundaries all the resources to accomplish that objective, from the institutional perspective, the aim is the "education" of undergraduates -- a goal requiring for efficient accomplishment the aggregation of faculty and other personnel resources from different department with knowledge, pedagogical and other skills. The costs of coordinating the conduct of undergraduate education across departments (or, indeed, the costs of coordinating cross-disciplinary research) is exceedingly high. Because most universities are not willing to pay such costs, the coordinating tasks are left to part-time committees. Undergraduate education thus suffers from inattention and undercommitment.

Inducing intra-unit loyalty and the strengthening of unit productivity norms (the second critical principle) raises the hazard that overall institutional objectives will be subordinated to the subunit's goals. This is a danger, however, primarily when the organization of the institution is by process, rather than product or client. In a multi-purpose institution when self-contained units are organized according to purpose, the maximization of unidimensional unit goals serves the institution's total objectives. Clearly, there will be cases when units attending to one set of institutional goals find themselves in competition for scarce resources. But such conflicts can be

resolved at higher administrative levels. The point is that there is less need for inter-unit coordination and inter-dependency when the units are self-contained by client rather than professional background.

There are obvious exceptions to this rule, of course. One is when a small amount of some processes are required by a number of units but none of the units requires a full time person (e.g., in a labor-intensive organization) or the full use of an expensive machine to perform the process. There is, however, no necessity that the criterion of self-containment by which each of the processes or functions is organized be the same (Gulick, 1937; Miller, 1959). Some institutional goals can best be achieved through organization by product, some by client, some by process, and some by place (Grimes, Klein and Shull, 1972). As noted on page 12 above, coupling specialized units with task environments of varying uncertainties is conducive to greater efficiency. Woodward (1965) reports, too, that mechanistic work units are appropriate to stable environmental conditions while organic systems better external conditions of continual change. Or, in March and Simon's terms:

> ...the division of work that is most effective for the performance of relatively programmed tasks need not be the same as that which is most effective for the performance of relatively unprogrammed tasks (p. 158)
>
> ...process specialization will be carried furthest in stable environments, and...under rapidly changing circumstances specialization will be sacrificed to secure greater self-containment of separate programs (p. 159)

Given the variations in environmental uncertainty noted in Exhibit I, there is some reason to believe that some of the university's functions can be contained in process, some in product and some in client-oriented units.

The present organization of universities appears to follow an accountability/authority pattern organized by process. Thus, many universities have vice-presidents for academic affairs (encompassing the instructional processes), a vice president for research, a vice president for public affairs (usually concerned with fund raising, but occasionally involving continuing education), and a vice president for administration. The processes are carried out through the personal resources provided by faculty assembled in academic departments. These faculty are "multiple function professionals" (Charnes, Lawrence and Weisbord, 1976). That is, they are expected to perform in roles designed to meet a number of goals in a multi-purpose institution. In Exhibit II above the typical university organization was delimited. Partly because each faculty member is assumed to have acquired a variety of personal specializations, partly because of the tradition of academic freedom, and partly because departments have historically come to have considerable personal autonomy, authority and control over processes resides primarily at a highly decentralized level. Departmental peers exercise ex post facto control through summative evaluation. Hierarchical or bureaucratic authority and control is limited by tradition and structure. Process vice presidents largely exert veto power or, in some cases, engender a "rule of anticipated reaction" (Friedrich, 1959) in which only approvable appointments are sent up the line.

Matrix Organization and Its Limitations

Whether real or imagined, the pace of change in today's society seems to be increasing. In order for organizations to be adaptive to changing environmental circumstances, new forms of organization are required (Bennis and Slater, 1968). These new forms must be able to collect

highly skilled persons in temporary sub-units whose functions are to meet one-of-a-kind needs of organizational clients. "Project" type organizations such as these have their prototypes in engineering design firms, in the military and in hospitals (Charns, 1972; Evans, 1970). In order to permit project teams to be formed out of existing institutional personnel resources, it is becoming increasingly common for "matrix" organizational structures to be set up (Cleland, 1969; Galbraith, 1973; Kingdon, 1973). Such organizations are comprised of varying kinds of departments of relatively narrow specialists on the one hand and projects on the other to which the specialists are "loaned" for the duration of the project. Members of the project are evaluated by the project leader and by the head of the home or base department. Some matrix organizations have specialists on one axis crossed with longer-run product line organizations on the other.

The apparent success in industry of these hybrid forms of organization have led some to recommend their adoption in university settings (Litchfield, 1959; Ikenberry, 1972; Ikenberry and Friedman, 1972; Kast, Rosenzweig and Stockman, 1970; Metzger, 1973; Jantsch, 1972). As Bennis (1968) describes this kind of organization:

> It would resemble a matrix organization with each professor occupying a three-dimensional space or a set of three concentric circles. The first would be the department, which, in most cases, would be the man's main career locus and "home-base." The second would be a teaching program, a special teaching program or responsibility for one or another teaching program. The third would be membership in some sort of action-research or service project. Students would occupy the same three loci and be able to move in and among them.
>
> Not all individuals would want this complex set of activities and would opt for one or two. This is agreeable and commendable as long as the person attains excellence in any one. Other individuals would choose a wider spectrum of activities

> and these persons, who we would still expect excellence in one area, would be able to integrate the teaching, research and service functions of the university.

It is important to note here that there is a vital difference between matrix organizations in industry and those in higher education. In the former case, specialists are single function professionals whose talents are called upon usually in one project at a time. In a university, the specialists to be loaned to a research, teaching, or service project are multiple-function professionals. The "home-base" department for industrial professionals has a narrow set of skills or a "core" tasks which define almost symbolically the work of an occupational group (Hughes, 1958, pp. 121-22). In higher education, on the other hand, the tasks of faculty members are ambiguously defined across at least three broad areas -- teaching, research and service. Indeed public service usually encompasses no clear official domain of behavior, and teaching is only slightly more publicly acknowledged to call for known tasks.

There are a number of dangers in the adoption of a industrial type matrix organization for universities which stem in part from the nature of faculty as multiple function professionals. First, as Charns, Lawrence and Weisbord (1967) found, multiple function professionals tend to be less sensitive to the differences among the various tasks in the different areas in which they work. They tend to "blur together perceptions of their several functions", ignoring subtleties and nuances which should affect their behavior. For example, a teacher may tend to spend too much time with unsophisticated students discussing current abstract, specialized research. Or a statistics professor may use the distribution of quiz grades to illustrate statistical theories without realizing the anxiety-producing impact of his pedagogy. Compared with single function

professionals, in other words, multiple function professionals will perform less efficiently when they are organized in self-contained departments not oriented toward any one particular output. Charnes et al. go on to suggest a matrix-type organization in which multiple function professionals would have multiple reporting relationships. Contractual arrangements with product or function-oriented department heads would, it is alleged, help professionals clarify their tasks and responsibilities in the separate domains. The authors of this proposal acknowledge that such a matrix organization runs the risk of making competition for professional time much more open than it is now, thus placing great strains on the organization and individual. Instead of managing conflicts in his/her own time through personal adjustments in the rather lax atmosphere of an academic department, the professional would account for his time openly to the several persons overseeing his/her behavior.

Another danger of the matrix form lies in the retention of the academic department as a "home base". Since evaluation of the professional is by peers, the latter must be qualified to make judgments in all of the competencies expected of the department member. Whereas in a single function or process department, peers may be so qualified, it is unlikely that this will be so when so many different kinds of skills are required. Indeed, in present-day academic departments in universities, there is usually some doubt that departmental peers can adequately judge the effectiveness of the departmental member even in his/her research endeavors. Commonly, outside consultants familiar with the member's specialized area of knowledge are asked to evaluate publications and other research activities.

Given the problems of matrix organizations for multiple function professionals, the question must be asked if there are alternative structural

arrangements? The answer is probably no if the present images and role conceptions of an "academic person" are to be retained. If it is insisted that a faculty member be trained in a Ph.D program like those extant and that he/she become a part of a multiple function department in a particular discipline, then perhaps matrix organizations of the kind Charns et al. recommend are desirable. If, on the other hand, it is recognized that in complex societies there are inevitable trends toward greater and greater task and personal specialization (Durkheim, 1964; Thompson, 1967; Tyler, 1973), then perhaps alternatives exist. The issue revolves around the possibility of identifying finer specializations than now exist in academia and of changing graduate school curricula and aims to permit such specializations to be turned into discrete professions. The matrix organization for universities, then, would not consist of academic departments as one axis and research, teaching and service programs on the other, as in the Bennis model. Instead, the matrix would involve process specialties crossed with products or goals or clients. Each cell of the matrix would then represent a unique profession.

A Hypothetical Academic Organization

Such a model can be illustrated through the research described earlier. The matrix is formed by arraying horizontally the ten factors identified in Exhibit IX -- the macro-processes -- and vertically the clients to be served by the university.

(Insert Exhibit X about here)

In the cells of the matrix are 61 of the 69 scales, representing those role variables which loaded highly on the factors in the analysis. For example, eight of the scales were loaded highly on Research and Writing. Two of them are in the client (row) cell for Graduate Students and

Exhibit X
Hypothesized Matrix Organization
Based on Faculty Role Preferences

PROCESSES

CLIENTS	Goal Attainment Functions (Production/Technical Subsystems)						Adaption Function (Leadership/Managerial Subsystem)		Integrative/Latency Functions (Social Maintenance Subsystem)	
			Instruction							
	Research & Writing	Off-Campus Service	Graduate Instruction	Undergraduate Instruction	Introductory Instruction	Person-Centered Services	Evaluation	Administrative Review/Influence	Environmental Intervention	Latency
Undergraduate Students		Instruction overseas Instruction Through Field Work		Instruction in large Classes Instruction in Discussions Structured Tchg. Heavy Load	Introductory Instruction Collaborative Instruction Innovative Instruction	Informal Interaction Attending to Pers. Pros. Career Guidance Remedial Instr. Self-Paced Instr. Non-Academic Services	Curriculum Development & Performance Evaluation	Directing Dept. UG Instruction & Improvement		
Graduate Students	Research w/ Grads Work w/Post Docs		Instruction to Graduate Students			Graduate Placement Remedial Grad Instr. Non-Academic Services Attending to Pers. Probs.	Eval. of Degr. Req. & Progr. Thesis Devel. Eval. of Papers	Curriculum Development		
Academic Community or/and Industry	Empirical & Quantit. Long-Term Theoret. Writing Off-Campus Multi-Proj. Collaborative	Consulting Field Work Keeping Up to Date Impacting the Discipline					Editing, Rewriting, Reviewing	Grant Preparation, Proposal Writing	In-Person Professional Presentations	
Outside Community		Professional Serv. to Gov't Agencies Service to Relig. & Charitable Org'ns.			Increasing Lay Public Awareness of Field	Service to Helping Professions		Housing & School Issues Political Influence	Promoting Local Culture Involvement in Local Causes	
Inside Community						Justice & & Equity		Bureaucratic Detail Ten. & Progr. Decisions Governance Resource Mgt. Conf. Plan'g Ed. Leadership Inst. & Progr. Evaluation	Improving Esthetics Educational Leadership Personal Visibility	Counsel Colleagues on Personal Matters Promote social integration

six of them are in the client (row) cell for Academic Community and/or Industry. Of the fifty cells (ten processes by five client-types), only half, 25, are filled, though in some cases the faculty roles listed in one cell might also be considered to benefit more than one client (row). Instruction in large classes, for example, meets the needs of undergraduates in the short run, while it meets the needs of community and parents in the long run. The exhibit has also been simplified somewhat by forcing the roles into only one process factor (column), even if the role loaded highly on more than one. Such double loading occurred only four times, however.

Each of the 25 cells represents a possible organizational unit. The question of how the units would be staffed requires some further assumptions about the state of professional preparation of academics in American higher education. Since each unit constitutes a potentially discrete occupational specialty, it is conceivable that over time workers would be trained for performance in each unit in advanced professional schools.* These schools would provide specialized personnel appropriately trained for each different type of activity. Job enlargement, job rotation and job enrichment programs would be set up so that there would be opportunities for "faculty" development as needs dictate in the course of the career.

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*Though some of the units may never be fully professionalized (Wilensky, 1964), it is likely that professional standards of quality control and peer control of performance would dominate the institution as a whole and would therefore inhere in each technical unit (Freidson, 1976). However, since the units vary in the technology required (environmental uncertainty, batch or continuous process, programmability of search precedures, etc. -- see pp. 11-12 above), it may be that different work structures will evolve and that different authority and control procedures and norms will obtain. The differences between administrative authority and faculty authority in universities today illustrate in part the ways the unit tasks and objectives determine the particular mode of control. However, with a universalized socio-technically designed system (Herbst, 1974) such differences might be expected to be far less than today.

With many more career tracks available and with a flexible rotation system, the stagnancy now fairly common among faculty ranks, especially in non-publishing teachers, would be mitigated. Since from the data from this research, staffing needs for each unit can not be determined, no projections of the possibilities for "joint appointments" can be made. It is probable, however, that some of the units would not require full-time services of professionals with even more specialized skills (e.g., curriculum developers with concentrations in the biological sciences), thus permitting some simultaneous multiple associations.

It is important to note that there are no traditional departments in this model -- no "home base" to which faculty would turn for the usual identification and formal and informal rewards. Instead, faculty would come to associate directly with (and probably have offices geographically proximate to) the unit in which most of the work time was spent. Informal colloquia might connect personnel using the same knowledge base, but no formal associations would be set up. This would avoid or at least reduce the tendency of faculty to use the discipline as a reference group. Sources of satisfaction and status should stem from work units. (The present problems of faculty cosmopolitanism and strong external national reference groups are discussed below.)

Administratively, each unit head would be responsible for the performance of his/her unit and for evaluation of the professionals who comprise it. The units in this kind of a matrix framework would have a dichotomous reporting structure. The director of each process (column) and of each client type (row) would oversee the units under his/her jurisdiction. Lateral or horizontal relations (Sayles, 1964; Strauss, 1962) between process and client managers would be necessary to prevent excessive conflicting pressures on unit heads. Lateral relations among process managers

would be necessary to assure efficient delivery of services. For example, the director of graduate instruction would want to coordinate his/her plans with the director of undergraduate instruction.

Clearly, some of the units identified by the matrix would be quite large and would require second-order specialization. The work of the main research unit might be broken down in a number of ways. Jantsch (1972) suggests a three-fold systemic organization of research efforts, oriented toward social problems and technological concerns (these two from a trans-disciplinary perspective) and toward disciplines (concentrating on more basic, theoretical domains). Some or all of the units serving undergraduate clients would be guided more by theories of student academic and socio-emotional readiness to learn and grow than is now the case. Some further differentiation of function along these lines might be appropriate for these units. The design of the organizational unit can be accomplished through democratic, action-research processes which maximize member possibilities for performing tasks which are intrinsically rewarding (Kilmann, n.d.; Kilmann and McKelvey, 1975).

It will be evident that the conceptual framework for the organizational design just presented depends importantly on a rather complete transformation of the occupational training structure for the academic profession. The present status and prestige system which gives high marks for publication and professional reputation limits the opportunities for the vast majority of faculty with skills and interests in other areas from having their achievements matched with appropriate status. While local campus prestige is important in fulfilling the ego needs of many faculty, there is a near universal need for achievement of "immortality" through recognition by a wider constituency, especially by peers

with similar specialties working on the same or related problems. What the proposed academic organization will do is to increase the number of professional specializations and change them from a narrow disciplinary base to broader occupational specialties. While it may be that research and publication in these new fields will still carry higher prestige, there are models in other professions where extraordinary clinical practice and teaching are also given high status. This broadening of the bases for excellence should undermine the aristocracy of intellect in higher education and allow excellence to be achieved by a far larger number of people with due recognition and reward (Gardner, 1961; Young, 1965; cf. Sennett and Cobb, 1973).

From Here to There

As with any sketch of the future, there remains a problem of getting there from the present system. The research described earlier involved six campuses. Similar assessments of other campuses would yield some of the same and some different organizational components. These data, made available to campus decision-makers, could be the basis for long-range organizational development programs. A reorganization of a campus does not necessarily depend on the reorganization of the academic profession or of the occupational structure which attracts recruits and trains them. It is likely that with increasing use of this proposed model, universities will begin to put pressure on graduate schools (including their own) to turn out professionals who are better trained to perform in the specialties identified in the research.

Under present academic organizations, faculty are expected to perform essentially five global roles: graduate teaching, undergraduates teaching, research and professional activities, institutional service

and public service. As an interim step to the future organization portrayed above (i.e., prior to more global changes in the occupational structure), it is proposed that faculty be given the opportunity to become associated with up to five of the twenty-five organizational units on the chart. At least fifty percent of the faculty member's time commitment would have to be contracted with one unit, and no less than five per cent could be allocated to any unit. Contracts for from three to five years would be written. Institutional rewards for high performance would come in the form of offers of contract renewal. Negative sanctions would take the form of non-renewals, though it is expected that norms of helping and formative evaluation would enable poor performers to upgrade their skills. Non-renewal would be rare, since poor performing faculty would be encouraged to select other units where different skills and talents might be exercised to better effect. In this model, salary increments would be made on the basis of longevity, not merit. In line with the notion that each faculty member has chosen the units with which he/she wishes to be associated ----------> on the basis of the "intrinsic satisfactions" that the work itself provided, it is assumed that no differential monetary reward system need be provided by the institution. In Maslow's terms (1954), safety and security needs are taken care of by the institution, belonging needs by the units of association, and self-esteem-ego needs by the work itself. Status is accorded by peers for high performance.

Issues and Cautions

Since the academic organization proposed here differs dramatically from the present structure, some questions can be raised which at this time can be answered only tentatively. But they need to be considered.

For example, the question of whether faculty preference for a particular activity can be accommodated organizationally when preferences and talents do not match. That is, suppose a faculty member alleges that he/she "likes" to do something, but it happens that he/she does it badly. To what extent can the institution tolerate personally preferred incompetence (Goode, 1967)? The answer, of course, is not clear. It would seem, however, that institutional vitality would be enhanced by opportunities for personal risk taking in new domains of competence, provided that time limits on the venture are specified. The contractual scheme outlined above would seem to allow the necessary constraints.

Another question concerns the integrity of the instituition as a whole. If each unit is client-centered, and the need for inter-unit dependence is reduced, what will hold the university together? The answer lies in part in the integrating force of "knowledge". There is no other social institution in modern society where knowledge-related functions can be aggregated (Wallis, 1975). It is probable that if totally separated geographically and organizationally, they would tend to come together anyway. The organizational sub-units may not be directly operationally dependent, but they rely on one another informally and in the long run for their continued growth and development. As Parson and Platt (1968, IV-28) note, the norm of "cognitive rationality" has been institutionalized in universities, with increased differentiation leading to greater collegiality.* In the proposed model, the underlying technological medium of knowledge integrates the various processes together institutionally, countering the centrifugal tendencies of the client-centered sub-units. It is likely, too, that rotation of faculty through the sub-units

* See also the Parsons and Platt discussion of Smelser's "bundle" and the federal complex (Parsons and Platt, 1973, p 346 ff.)

will enhance the sense of institutional integrity.

In a larger sense, the preservation of institutional integrity will stem from an "organic solidarity" such as Durkheim proposed (1964). Social harmony, Durkheim submits, derives essentially from the division of labor.

> It is characterized by a co-operation which is automatically produced through the pursuit by each individual of his own interests. It suffices in order, by the force of events, to make himself solidary with others. (p. 200)
>
> It is necessary...that the collective conscience leave open a part of the individual conscience in order that special functions may be established there, functions which it cannot regulate. The more this region is extended, the stronger is the cohension which results from this solidarity. In effect, on the one hand, each one depends as much more strictly on society as labor is divided; and, on the other, the activity of each is as much more personal as it is more specialized. (p. 131)

Clearly, such solidarity arising out of each person's sense of his contributing to the social good and being necessary to it, depends on the capacity of leadership to promulgate institutional goals and to inspire organizational members to believe in them (Selznick, 1957).

A related problem is the potential loss of institutional autonomy with respect to the society. For if each of the units is coupled contingently to the client it serves, there is a danger that the client will begin to exercise increasingly authoritative power over the activities of the units, especially as funding tends to follow programmatic lines. The lament of university presidents that in the days of "big science" following Sputnik, professorial access to and communication directly with Washington limited presidential power and led to institutional prostitution illustrates the danger. Two partial remedies to this problem suggest themselves. First, the increased differentiation of function

will allow funding sources to select more appropriate units to carry out the aims of the project. This will limit faculty entrepreneurs from seeking funds for activities which are inappropriate to their talents and the aims of their units. (Note that the loose, discipline-dominated structure today permits faculty wide discretion in kinds of activities to be funded.) Second, there has been and will continue to be a tightening up of evaluation procedures by the funding agencies. This is no longer an era of ever-expanding resources. Third, differentiation along the lines suggested is likely to lead to much greater diversity in higher education nationally. By assessing faculty interests on each campuses, it will be found that different campuses prefer to emphasize different domains of inquiry and different kinds of teaching and service. With increased opportunities for faculty mobility between institutions, these emphases will be strengthened, giving funding agencies a choice among more specialized agencies.

Still another important issue has to do with the nature of the academic profession. The question might be asked whether the proposed differentiation of occupational structure will not make colleges and universities more like elementary and secondary schools. Since the graduate education of these new kinds of professionals will require a great deal more training in pedagogy, counseling and other techniques for dealing with students, will not such education come to resemble that presently offered by schools and departments of education and by teachers colleges. The criticism, most frequently encountered (justified or not) is that such institutions tend to overemphasize method at the expense of content. The issue is a complicated one, but the problem may not be as real for higher education. For one reason, without casting aspersions, the lower schools have always had difficulty attracting

high quality degree candidates -- teaching being the "fall-back" occupation for many women who never use their degrees professionally. Second, the aims of education have been and probably will continue to be imperfectly understood and articulated. Since recall of content is more easily measured than personal growth and development, critics tend to point to failures of the school system to teach basics and to lay blame on teachers whose background in content allegedly is weak. In higher education with the matrix organization proposed, the opportunities for faculty interested in undergraduate education to be more precise about their objectives will be increased, thereby ameliorating the content/process issue somewhat.

A fourth issue which might be raised has to do with academic freedom and the nature of academic authority. Will not specialization of function lead to a "scientific management" mentality in higher education, with increased specification of tasks, increased routinization and repetitiveness and increased bureaucratic scrutiny and evaluation of daily work output? Not likely. Virtually all the units in the matrix will represent professional occupations. The style of work and the organizational climate will doubtless remain professional, though as noted earlier, units concerned with administrative tasks may differ somewhat in their authority structures.

Summary and Conclusions

The present organization and management of academic affairs in higher education has come to be loosely structured for a number of reasons. An important latent one is that the needs of cosmopolitan

researchers and the protection of less motivated and less productive others can best be accommodated under the guise of academic freedom. While the manifest rationale for maintaining academic freedom is that it protects faculty from irrelevant and unjust interference in the performance of their duties, the more potent reason is that it prevents close supervision of faculty and reduces the need for holding them accountable. Since quality and productivity are unevenly distributed across faculty, academic freedom permits many persons to continue patterns of behavior which are not productive either for themselves or for their institutions. Institutional ineffectiveness can not, of course, continue indefinitely, especially in the light of current budget stringencies in higher education. Equally important, patterns of faculty activity which are not producing high levels of personal satisfaction can hardly be considered tolerable in a system whose central concerns are with human growth and development.

The conduct of academic affairs depends for its administrative coordination and control on persons trained primarily as professionals in research for various disciplines. If control over faculty accountability remains in the "family" of academia, the norms of academic freedom and their manifest and latent behavioral correlates will not be violated. Much of the administrative coordination depends on the participation of faculty who serve intermittently and part-time in capacities for which they are largely untrained and ill-qualified. Institutional service, performed by academic department members in low-status committees on a rotating basis is often done grudgingly. High status committees are frequently staffed by oligarchs with strong self-perpetuating motives (McConnel & Mortimer,

1971). In neither case has "efficiency" ever been claimed as the reason for this mode of organizational coordination.

If faculty are poorly prepared for their administrative roles, they are also relatively without training in other aspects of their faculty responsibilities. Asked at various times in their careers to be counselors, discussion leaders, lecturers to mass audiences, consultants to public officials, editors of journals, aides to industrial concerns, urban redevelopers, reformers of the federal bureaucracy and science advisors to presidents, they are either forced into situations for which they have less interest, or they informally distribute themselves across the many subspecialities of the faculty role for which they feel and are more competent. In both cases faculty often find that they have time to give only token attention to those aspects of their multi-faceted role which are of minor personal interest. Unfortunately, on many occasions, these latter duties are of major organizational concern.

In sum, faculty are trained in graduate schools largely to perform research in their disciplines: they have little cross-disciplinary background, inclination and understanding; little training in the pedagogical nuances needed in teaching; and inadequate awareness of skills in the organizational and administrative techniques and requirements of other parts of their roles.

The research reported here was designed to inquire into the possibility for restructuring universities to accomplish two aims: improve the effectiveness of educational institutions and provide opportunities for more faculty to select work which is intrinsically rewarding and satisfying. It assumed that faculty would be more

productive if they were not constrained to do many activities which were distasteful, unrewarding and without formal or informal status. On the basis of the findings, it is proposed that a further formal differentiation of function in higher education is necessary, and that such division of labor be not by discipline but by skill and client specialization. This will require a substantial change in the conception of the academic profession as a whole and of the nature of graduate training for it. Indeed, the academic "profession" will expand to include many new professions. A richer, more diverse occupational field will permit many more opportunities for job rotation and hence continued professional and personal growth and development. Suggestions as to the nature of these new occupations are given in the matrix displayed in Exhibit X. The study which generated the occupational possibilities was exploratory, and while validation of faculty interests in these areas awaits confirming research, it is informative and useful to speculate on the future of an academic profession comprised of the subprofessions noted.

While these proposals may appear somewhat dramatic in nature, they are capable of being implemented using present faculty. Inchoate forms of future academic organizations can be set up and current faculty recruited to them. The major difference between this proposal and others which urge, for example, more teacher training in graduate schools, is that this one suggests reorganized academic structures to receive new professionals and to provide them with continued organizational opportunities for sustained rewards. The most radical feature of this proposal is that the academic department in higher education be eliminated.

Higher education institutions have been organized conservatively. The conservatism benefits those of its clients who make use of its production of "warrantable knowledge" (Dewey, 1938) through research; it defaults on its obligations to other potential beneficiaries who require more "immediacy" in their relations with faculty. The research mode, in other words, dominates all the missions of the university. The result is that the ubiquitous organizational (indeed, social) dilemma of balancing stability and change has been inadequately met in higher education. The multi-purpose nature of academic institutions has rendered its conservative forces stronger than its progressive ones -- its cognitive orientations more powerful than its affective.

There are many who argue that the integrity of the university is preserved by the interplay among the missions. What in fact takes place, however, is that such integration is forced on the "multi-function" professional faculty member. Because the reward structure, both formal and informal, places such heavy emphasis on research, he/she is forced to neglect portions of the other missions which are of lesser interest or which lead to lower probabilities for advancement. With the redesign of the university organization proposed in this paper, such intra-personal dilemmas will be reduced. The psychic conflicts will yield to organizational conflicts, but the latter will be minimized through the client/process matrix organization. Normatively, the essential "cognitive" bases of university life and work will remain the force which integrates the missions, but the latter will be sufficiently organizationally discrete that specific mission-dominated orientations can emerge. A more

utilitarian, pragmatic operation will thus be possible through a new kind of organization/environment contingency approach -- one which recognizes the different kinds of clients and their needs but which also accounts for the disparate needs of the professionals who staff the organization. Environment and organization become a merged network of clients and professionals working cooperatively in the service of higher education and a better world.

*

APPENDIX A

Scale Descriptions

Fulfilling the Educational Missions of the Institution

EA. Instruction - General

EA1 Scale Name: Instruction to Graduate Students
Faculty members scoring high on this scale like to teach graduate students in virtually all settings. They like to offer advanced instruction in seminars and lecture to graduate students. They enjoy teaching beginning students as well as those in more advanced stages.

EA2 Scale Name: Instruction to Undergraduate Students
High scorers on this scale prefer to teach many courses each semester.

EB. Instruction to Special Constituencies

EB1 Scale Name: Remedial Undergraduate Instruction
Those scoring high on this scale express a liking for working with students who have special learning problems, particularly lack of motivation. These faculty also will work with seemingly uncreative undergraduates and with classes of minority students who may have been disadvantaged. Counseling undergraduates on whether to drop courses or take incompletes is another task in this scale.

EB2 Scale Name: Introductory Level Instruction
Tasks included in this role are instructing in a freshman level course, offering an introductory course for undergraduates and co-instructing in an interdisciplinary course.

EB3 Scale Name: Remedial Graduate Instruction
This role orientation revolves around the provision of remedial instruction to graduate students. Faculty with high scores are willing to give additional time to working with graduate students on special problems.

EB4 Scale Name: Graduate Student Thesis Development
Faculty who prefer this role like to work with graduate students who are at the thesis stage. They enjoy being dissertation chairpersons and dissertation committee persons for students both in and out of their fields. They work with graduate students in research design and participate in oral thesis defense examinations

EB5 Scale Name: Work With Post-Docs
Faculty who score high on this scale like to coordinate post-doc programs, instruct post-docs and assist in their research.

* Letters and numbers preceding scale names refer to exhibits in the body of the text.

EB6 Scale Name: Instruction to Adult Graduate Students
This scale is defined presently by one item -- "Offer instruction to adult graduate students."

EC. Instruction in Unique Styles or Settings

EC1 Scale Name: Innovative Instruction
Faculty who like to do the tasks comprising this scale are interested in improving their teaching. They talk with other faculty in and out of their departments about their instructional techniques, develop new curricula, sometimes offering experimental courses, and develop and use new teaching methods in their instruction.

EC2 Scale Name: Individualized Instruction
Faculty professing a liking for tasks in this scale have a bent for working closely with individual students. They tend to offer instruction on a one-to-one basis and to work out independent study programs. They are willing to spend time helping develop writing skills, partly through comments on papers and discussions of papers with students.

EC3 Scale Name: Student-Paced Learning and Grading
Faculty who are interested in this kind of instruction can be identified by this scale. They like to use self-paced learning techniques and to allow students some form of self-grading.

EC4 Scale Name: Instruction Overseas
A number of faculty like to arrange study abroad programs and like to teach in a foreign country.

EC5 Scale Name: Instruction Through Field Work
As an adjunct to regular classroom teaching, some faculty like to have undergraduates experience other learning environments. This scale indicates the degree to which faculty like to arrange field work, develop research internship programs, and use non-university facilities, including their houses, in their teaching.

EC6 Scale Name: Instruction in Discussion Classes
These faculty prefer to encourage expression of opposing views, to encourage student discussion in classes, to answer student questions during class, to have students formally lead class discussions. They like to stimulate student discussion, even attempting to get particularly shy students to speak out.

EC7 Scale Name: Instruction in Large Classes
These faculty like to offer instruction in classes greater than 100 and in at least one section of that course. They also like to teach in classes of 30-99 students.

EC8 Scale Name: Traditional Structured Teaching
Faculty preferring this style of instruction like to reread old lecture notes, adhere to course syllabus, use textbooks, begin and end classes in allotted time, and use standard grades.

EC9 Scale Name: Collaborative Instruction
This scale measures an interest in sharing instruction with colleagues, students and recorded/taped media. Faculty scoring high enjoy having colleagues participate in classes and coinstructing with other faculty in interdisciplinary ventures or undergraduate seminars. They like to have undergraduates lead class discussions and to collaborate with one another in class. Film and video-tape are used as well.

ED. Curricular Planning and Program and Student Evaluation

ED1 Scale Name: Undergraduate Curriculum Development and Performance Evaluation
Faculty members who like this role tend to want to be involved in the development of the course curriculum and the determination of whether undergraduates have met its requirements. They like working on the syllabus, preparing examination questions, grading the exams, discussing grades with students and assigning final grades. Based in part on their assessments, they like writing letters of recommendation for undergraduates.

ED2 Scale Name: Graduate Education Curriculum Development
Faculty with this orientation prefer tasks which involve them in revisions of M.A. and Ph.D. curricula.

ED3 Scale Name: Evaluation of Graduate Student Papers
Items in this scale distinguish among those faculty who do and do not like to grade student papers or write comments on them.

ED4 Scale Name: Evaluation of Graduate Degree Requirements and Student Progress
This scale measures faculty interest in organizing or reorganizing graduate education, securing funds for support of graduate students, and establishing standards to be met by graduate students in order to obtain the doctorate.

ED5 Scale Name: Institutional and Program Evaluation
This role includes helping to conduct a self-study, evaluating existing curricular programs in the department, evaluating proposals for independent study, working on the overall university curriculum and deciding which programs in the department should be phased out.

Fulfilling the Knowledge Production Missions

KA. Research-General

KA1 Scale Name: Long Term Theoretical Research
The orientation of faculty who score high on this scale is toward research in general. These faculty are interested in developing new fundamental theory, as well as researching existing theories. They like to gather data for their research and to analyze it. The pay-off for this group may be distant as they prefer to work on projects of greater than one year's duration.

KA2 Scale Name: Empirical and Quantitative Research
The orientation of this role leads faculty members to research tasks which are involved with analysis of empirical data. These persons will use laboratory techniques, construct research equipment, develop quantitative methods for their research, including computer-assisted modes. The role also requires a disposition to learn new research techniques and to enjoy the processes of data analysis. These researchers are oriented toward research on existing theoretical questions rather than an exploration of new theoretical grounds.

KA3 Scale Name: Non-Empirical Library Research
This scale captures the interests of those faculty who like to work with library materials on research projects not requiring outside funding.

KB. Research-Special

KB1 Scale Name: Highly Specialized Research
This scale is presently comprised of only one item "Do research in one highly specialized area in your field". However, it is conceivable that faculty at different career stages might prefer to spend time on a single project, rather than being constrained to pursue many at one time.

KB2 Scale Name: Off-Campus Research
High scoring faculty would prefer to spend time as visiting research professors at other campuses or to do research off-campus (though not in their homes).

KB3 Scale Name: Cross-Disciplinary Research
Faculty liking this kind of activity will be found reviewing literature for research purposes in fields substantially different from their own, performing research in those fields, and even spending their sabbaticals there.

KB4 Scale Name: Multi-Project Research
This scale measures faculty members' liking for research in more than one project at a time. High scorers like doing research in two or more fields at a time, enjoy participating in more than one project, and tend to want to join research institutes where many projects are being conducted.

KB5 Scale Name: Collaborative Research
This scale helps identify those faculty who enjoy working with others. There are two sub-scales. The first is a scale measuring desire to interact at rather more sophistocated levels. These faculty like to work on group research projects with faculty colleagues both at their own and other universities, and they like to assist colleagues in research projects. The second subscale measuring liking for collaboration may stem from relatively more ignorance of field and/or method. These faculty seek out faculty in other disciplines to help with aspects of their research, share ideas with colleagues before they are fully formulated, join informal faculty discussion and experimental work groups and discuss research with "naive" persons.

KB6 Scale Name: Research With Graduate Students
These faculty members enjoy collaborating with graduate students on joint research projects. High scorers on this scale work with graduate students on field research, joint publications, and laboratory research. They help students work up grant proposals, use them on research teams and assist them in research designs.

KB7 Scale Name: Short Term Projects
This scale is presently defined by only one item "Work on projects of one year duration or less".

KC. Disseminating Knowledge

KC1 Scale Name: Writing
High scorers on this scale enjoy writing research monographs, books, and journal articles.

KC2 Scale Name: Editing, Rewriting & Reviewing
These faculty like to make editorial revisions on a book for publication, write versions of research papers for non-professional publication, rewrite papers for publication in professional journals out of the field, write book reviews for publication, collaborate with colleagues in writing textbooks and rework a study rejected for publication until it is accepted.

KC3 Scale Name: Impacting the Discipline Through Evaluation and Editing
Faculty scoring high on this scale are interested in serving the discipline through critical evaluation. They like to be members of accreditation teams, officers in professional societies, attend professional conferences, serve on editorial boards or/and edit journals and write book reviews for publication.

KC4 Scale Name: In-Person Professional Presentations
In contrast with written publication, some faculty members prefer more verbal modes of disseminating ideas. Faculty with this disposition will enjoy giving colloquia to faculty and students on their current research, participating in a formal debate with persons holding opposing views, guest lecturing for colleagues and giving papers at professional conferences in the field.

KD. Consulting

KD1 Scale Name: Consulting - Field Work
High scorers on this scale tend to want to work with more applied aspects of their fields. They like to work with non-academic organizations, often to obtain additional data for their research, but as well to consult about their field. They attend meetings of agencies dealing with problems in the field, work with government agencies, spend their sabbaticals out in the field.

Fulfilling Community Service Missions

CA. Professional Services

CA1 Scale Name: Service to Helping Professions
Faculty who like to engage in this kind of service prefer to become involved with a variety of helping professions, including drug halfway houses, prisons, vocational counseling centers, planned parenthood clinics, health facilities, and the like.

CA2 Scale name: Service to Religious and Charitable Organizations
The faculty who like to do the activities subsumed in this scale serve as unpaid advisors to religious organizations, give time to local charities and teach in Sunday schools or evening Bible classes.

CA3 Scale Name: Service to Local Protection Agencies
Faculty scoring high on this scale like to work as auxiliary police persons and as members of the local fire department.

CA4 Scale Name: Increasing Lay Public Awareness of Field
Acquainting the public with the profession is the orientation of faculty who score high on this scale. They like to give informal talks at the local high school, elementary school or nearby higher education institutions, demonstrate aspects of their fields to the general public and conduct clinics or seminars for lay persons interested in the field.

CA5 Scale Name: Professional Services to Governmental Agencies in Knowledge Dissemination/Skill Development
The tasks included in this scale allow faculty members to use their professional knowledge in advising the public of recent findings and training laymen in skills related to the field. These faculty like to serve on State boards for professionals, advise an international agency on policy in the field, consult in an unpaid capacity for a federal agency, conduct clinics or seminars for laypersons interested in the field and develop programs for training local government.

CB. Services As Citizens in the Community

CB1 Scale Name: Promoting Local Culture
The preservation and enhancement of local culture and the historical heritage is an activity in which faculty who score high on this scale engage. They like to offer their professional skills to the local library, be active in local cultural preservation society and the local historical society and help organize community art shows.

CB2 Scale Name: Dealing With Housing and School Issues
Faculty are often involved in problems which affect their homes and children's schools. This scale measures faculty interest in serving in this fashion. High scorers like to serve on town zoning boards, attend meetings about public housing in the community, be members of the local school board, and be elected local officials.

CB3 Scale Name: Exerting Political Influence
Some faculty are interested in influencing the political process on issues or in situations which are not necessarily only of local concern. This scale provides a measure of faculty orientations toward initiating consumer class action suits, organizing a lobby to influence state or local governments, and being a delegate to a political convention.

CB4 Scale Name: Involvement in Local Causes
Civic causes capture the interest and efforts of high scorers on this scale. It measures the degree to which faculty like to organize the local community in support of a civic cause. They will often be found as members of the ACLU, aiding in solving discrimination problems in the local community, writing letters to the editor of a newspaper and in general canvassing the local political climate on particular issues.

Providing Institutional Services

IA. Professional Services to Colleagues

IA1 Scale Name: Keeping Up to Date With Developments in Field
This role would involve those faculty who like to perform such activities as keeping up with literature in the field, reading journals out of the field regularly, attending meetings of an agency dealing with a problem in the field, and learning new research techniques.

IA2 Scale Name: Grant Preparation and Proposal Writing
Faculty scoring high on this scale are interested in writing up grant proposals and preparing budgets.

IB. Services to Students

IB1 Scale Name: Directing Departmental Graduate Program
This scale measures faculty interest in organizing or reorganizing graduate education, securing funds for support of graduate students, and establishing standards to be met by graduate students in order to obtain the doctorate.

IB2 Scale Name: Non-Academic Graduate Student Services
Services of interest to faculty with this orientation include helping with graduate student newsletters and performing advisor duties to graduate student organizations. High scorers will also be interested in working with graduate students on the development of departmental policy and on the recruitment of minority students.

IB3 Scale Name: Graduate Student Placement
The faculty member scoring high on this scale is interested in helping students find jobs and in counseling them about job offers. His orientation seems to stem from concern for the student rather than (or at least in addition to) merely contacting colleagues in other institutions. These faculty members are interested also in helping graduate students with personal problems and encouraging students to complete their degrees.

IB4 Scale Name: Directing Departmental Undergraduate Instruction and Teaching Improvement
High scorers on this scale want to be involved with university-wide teacher improvement programs, assigning teaching assistants, preparing teacher evaluation instruments, and assuming a directive role in organizing undergraduate teaching.

IB5 Scale Name: Non-Academic Undergraduate Student Services
Among the activities for which faculty who score high on this scale indicate a preference are working on a freshman orientation program, coordinating job placements for undergraduates, working on university-wide teacher improvement programs, serving as a faculty advisor to student clubs, serving as a preprofessional advisor and acting as a university ombudsman for undergraduates.

IB6 Scale Name: Undergraduate Career Guidance
High scores on this scale denote a predilection for helping undergraduates relate current interests to future conditions. Faculty who prefer to engage in these activities relate their courses to students' future activities, counsel undergraduates thinking about entering the field, discuss student outside interests and offer career advice.

IC. Attending to Others' Personal Needs

IC1 Scale Name: Attending to Graduate Students' Personal Needs
Faculty who score high on this scale serve in useful roles as personal advisors and friends of graduate students. The tasks include giving additional time to graduate students, helping them with personal problems and having them home for supper.

IC2 Scale Name: Informal Interaction With Students
Faculty members who score high on this scale like to make themselves available to students in a variety of settings to discuss a number of subjects. They enjoy interacting with students in dormitories and student organizations, discussing student outside interests, intellectual ideas and special personal problems. They talk with students before and after classes and encourage students with problems to see them.

IC3 Scale Name: Attending to Students with Special Personal Problems
This scale points to those faculty who encourage undergraduates with problems to see them, who help undergraduates get professional counseling when necessary and in general try to design instructional activities to aid undergraduate emotional growth. Faculty with this predisposition will also like to develop teaching techniques for the handicapped students.

IC4 Scale Name: Promoting Social Integration
High scorers on this scale like to interact socially with colleagues and invite colleagues to their homes for exchange of information and ideas.

IC5 Scale Name: Offer Personal Counseling to Colleagues
Defined by one item ("Offer counsel to colleagues with personal problems").

ID. Leadership

ID1 Scale Name: University Governance
High scorers on this scale like to serve as departmental representatives on the faculty senate or be officers in the senate. They enjoy working on the university governance constitution and its revision.

ID2 Scale Name: Educational Leadership/Statesmanship
Faculty with strong dispositions in this area like to talk with trustees or regents about the future of the university, discuss departmental matters with the academic vice president or equivalent, talk with the university president about educational matters, serve occasionally in a formal administrative rather than a professional role (e.g., head an experimental program or research institute), and present a talk at commencement exercises.

ID3 Scale Name: Decision-Making on Tenure and Programs
Faculty scoring high on this scale like to do the following: make decisions at a university-wide level on questions of faculty promotion and tenure, determine standards and evaluate performance for awarding the Ph.D. degree, decide which programs should be phased out, recruit faculty, assign teaching assistants.

IE. Administration

IE1 Scale Name: Handling Bureaucratic Detail
Faculty who score high on this scale like to do the following: edit colleagues' course descriptions for the university bulletin, work out assignments for departmental faculty to advise undergraduates, consider official university appeals from undergraduates on their grades and academic standing, order supplies and resources for departmental use, record and publish minutes of committee meetings, assist in depart-

IE1 - (cont.)
mental preparations for an accreditation visit, review academic standing of students for purposes of recommending their graduation, probation, etc., evaluate undergraduate transfer credits, clear department majors for graduation, and complete forms for the administration requesting statistics on faculty activities.

IE2 Scale Name: Securing and Distribution of Resources
These faculty express a liking for negotiating with state officials on the university budget, having a part in controlling the funds and budgets of businesses operating on campus, advising on the allocation of student union funds, ordering supplies for the department, establishing parking priorities and improving the physical appearance of the campus.

IE3 Scale Name: Conference and Facilities Planning
Being involved in planning and inviting colleagues from other universities is a task especially liked by faculty who score high on this scale. They enjoy arranging faculty workshops locally as well as serving on national professional conference planning committees.

IF. Justice & Equity

IF1 Scale Name: Attention to Matters of Justice & Equity on Campus
Faculty disposed to take on this role are interested in such things as considering official university appeals from undergraduates on grades and academic standing, hearing cases of faculty grievances, reviewing cases of alleged student academic dishonesty, reviewing hiring practices to insure equal opportunity.

IG. Personal Need Fulfillment

IG1 Scale Name: Proselytising
This is a one-item scale reading. "Persuade undergraduates to adopt your personal intellectual perspectives."

IG2 Scale Name: Increasing Personal Visibility
This scale measures the desire of faculty to be seen either as an expert in the field or as a performer. High scorers like to appear on T.V. talk shows and write articles for magazines out of their fields. They also enjoy appearing in local non-professional theatrical groups.

IH. Environmental Improvement

IH1 Scale Name: Improving the Esthetic Environment
The cultural ambiance is the concern of faculty who score high on this scale. They like to arrange for artistic performing groups to visit the campus and to make decisions about the acquisition of art objects for the campus.

References

Argyris, Chris, Integrating the Individual and the Organization, New York, John Wiley and Sons, 1964.

Becker, Selwyn and Duncan Neuhauser, The Efficient Organization, New York; Elsevier Scientific Publishing, 1975.

Bell, Daniel, The Reforming of General Education, New York, Columbia University Press, 1966.

Bem, Daryl J. and Andrea Allen, "On Predicting Some of the People Some of the Time...", Psychological Review, 1974, 81,6.

Bennis, Warren G., "The Future of the Social Sciences", The Antioch Review, Summer, 1968, 28, 2.

Bennis, Warren G. and Philip Slater, The Temporary Society, New York, Harper and Row, Publishers, 1968.

Blau, Peter M. and Richard A. Schoenherr, The Structure of Organizations, New York, Basic Books, Publishers, 1971.

Blau, Peter M., Cecilia M. Falbe, William Mckinley and Phelps K. Tracy, "Technology and Organization in Manufacturing", Administrative Science Quarterly, March, 1976, 21, 1.

Blau, Peter M. and W. Richard Scott, Formal Organizations, San Francisco Chandler Publishing Company, 1962.

Burns, Tom and G.M. Stalker, The Management of Innovation, London, The Tavistock Institute, 1961.

Cattell, Raymond B. "The Organization of Independent Basic Research Institutes Symbiotic With Universities", Higher Education, 1973,2.

Chapple, Eliot and Leonard R. Sayles, The Measure of Management, New York, The Macmillan Company, 1960.

Charns, Martin P., "The Organization of Multiple Task Professionals", Unpublished Ph.D. Dissertation, Graduate School of Business Administration, Harvard University, 1972.

Charns, Martin P., Paul R. Lawrence and Marvin R. Weisbord, "Organizing Multiple-Function Professionals in Academic Medical Centers", Management Science, in press.

Cleland, David I, "Understanding Project Authority", Business Horizons, Spring, 1967, 10, 1.

Dillon, Donald, "Toward Matching Personal and Job Characteristics", Occupational Outlook Quarterly, Winter, 1971, 15, 4.

Dubin, Robert, "Industrial Workers' Worlds: A Study of the 'Central Life Interests' of Industrial Workers", Social Problems, 1956, 3

Dufty, N., "A Note on Departmentalization in an Institute of Technology", The Journal of Educational Administration, May, 1966, 4, 1.

Durkheim, Emile, The Division of Labor in Society, New York, The Free Press, 1964

Emery, Fred E. and Eric L. Trist, "The Causal Texture of Organizational Environment", Human Relations, 1965, 18.

Etzioni, Amitai, Modern Organizations, Englewood Cliffs, N.J., Prentice Hall, Inc., 1964.

Evans, John R., "Organizational Patterns For New Responsibilities", Journal of Medical Education, December, 1970, 45, 12.

Fayol, H., General and Industrial Management, New York, Pitman Publishing Co., 1949.

Friedrick, Carl, Community, New York, Liberal Arts Press, 1959.

Freidson, Eliot, "The Division of Labor As Social Interaction", Social Problems, February, 1976, 23, 3.

Galbraith, Jay, Designing Complex Organizations, Reading, Mass, Addison Wesley Publishing, 1973.

Gardner, John W., Excellence, New York, Harper and others, Publishers, 1961.

Goode, William J., "The Protection of the Inept", American Sociological Review, February, 1967, 32, 1.

Gouldner, Alvin W., "Organizational Analysis", in Robert K. Merton, Leonard Broom and Leonard S. Cottrell, Jr. (eds.), Sociology Today, Vol. II, New York, Basic Books, Inc., 1959.

Gouldner, Alvin W., Patterns of Industrial Bureaucracy, Glencoe, Ill, Free Press, 1954

Gross, Neal, "Organizational Lag in American Universities", Harvard Educational Review, Winter, 1963, 33, 1.

Guilford, J. P., "The Correlation of an Item With a Composite of the Remaining Items in a Test", Educational and Psychological Measurement, Spring, 1953, 13, 1.

Guilford, J. P., "The Three Faces of Intellect", American Psychologist, 1959, 14, 8.

Grimes, A.J., S.M. Klein, and F.A. Shull, "Matrix Model: A Selective Empirical Test", Academy of Management Journal, March, 1972, 15, 1.

Gulick, Luther, "Notes on the Theory of Organization", in Luther Gulick and L. Urwick (eds.), Papers on the Science of Administration, New York, Institute of Public Administration, 1937.

Hagstrom, Warren D., The Scientific Community, New York, Basic Books, Inc., 1965.

Harry, Joseph and Norman S. Goldner, "The Null Relationship Between Teaching and Research", Sociology of Education, Winter, 1971, 45, 1.

Herbst, P. G., Socio-technical Design, London, Tavistock Publications, Ltd., 1971.

Hrebiniak, Lawrence G., "Job Technology, Supervision, and Work-Group Structure", Administrative Science Quarterly, September, 1974, 19, 3.

Hughes, Everett C., Men and Their Work, Glencoe, Free Press, 1958

Ikenberry, Stanley D., "The Organizational Dilemma", Journal of Higher Education, January, 1972, 63, 1.

Ikenberry, Stanley D. and Renee C. Friedman, Beyond Academic Departments, San Francisco, Jossey-Bass, Inc., Publishers, 1972.

Jantsch, Erich, "Inter-and Transdisciplinary University: A Systems Approach to Education and Innovation", Higher Education, February, 1972, 1, 1.

Jencks, Christopher and David Riesman, The Academic Revolution, Garden City, N.Y., Doubleday and Company, Inc., 1968.

Kilmann, Ralph H., "An Action Research Model For the Design of Curriculum for Higher Education: The MAPS Design Technology", unpublished paper, Graduate School of Business, University of Pittsburgh, n.d.

Kilmann, Ralph H. and Bill McKelvey, "The MAPS Route to Better Organization Design", California Management Review, Spring, 1975, 17, 3.

Kast, Fremont E., James E. Rosenzweig, and John W. Stockman, "Interdisciplinary Programs in a University Setting", Academy of Management Journal, September, 1970, 13, 3.

Kingdon, Donald R., Matrix Organization, London, Tavistock Publications, Inc., 1973.

Kornhauser, William, Scientists in Industry: Conflict and Accommodation, Berkeley, University of California Press, 1962.

Kuder, G. F. and M. W. Richardson, "The Theory of Estimation of Test Reliability", Psychometrika, 1937, 2.

Lawler, Edward G., Motivation in Work Organizations, Monterey, California, Brooks/Cole, Inc., 1973.

Lawrence, Paul R. and Jay W. Lorsch, Organization and Environment, Boston, Harvard University Press, 1967.

Lewis, Lionel L., Scaling The Ivory Tower, Baltimore, The John Hopkins, Press, 1975.

Litterer, Joseph A., Organizations: Structure and Behavior, New York, John Wiley and Sons, Inc., 1963.

Maslow, Abraham H., Motivation and Personality, New York, Harper and Row, Publishers, 1954.

McGregor, Douglas, The Human Side of Enterprise, New York, McGraw Hill Book Co., 1960.

Melching, William H., "Procedures for Constructing and Using Task Inventories", Research and Development Series No. 91, The Center for Vocational and Technical Education, The Ohio State University, Columbus, March, 1973.

Metzger, Walter P., "From the 'Course' to the 'Institute'", Dialogue, 1973, 6, 3.

Miller, Erie J., "Technology, Territory, and Time", Human Relations, 1959, 7.

Mortimer, Kenneth P., Accountability in Higher Education, Washington, D.C., American Association for Higher Education, 1972.

Nadler, Gerald, Work Design, Homewood, Ill., Richard D. Irwin, Inc., 1963.

Parsons Talcott, The Social System, Glencoe, Ill., The Free Press, 1951.

Parsons, Talcott and Gerald M. Platt, The American University, Cambridge, Harvard University Press, 1973.

Parsons, Talcott and Neil J. Smelser, Economy and Society, Glencoe, Ill., The Free Press, 1956.

Pelz, Donald C. and Frank M. Andrews, "Autonomy, Coordination, and Stimulation, in Relation to Scientific Achievement", Behavioral Science, March, 1966, 11, 2.

Perrow, Charles, Organizational Analysis: A Sociological View, Belmont, California, Wadsworth Publishing Company, Inc., 1970.

Peterson, Marvin W., "The Department: Old and New Motifs", Occasional Paper, The Center for the Study of Higher Education, The University of Michigan, Ann Arbor, 1973.

Riccobono, John A. and J.W. Cunningham, "Work Dimensions Derived Through Systematic Job Analysis", Center Research Monograph No. 9, Center for Occupational Education, North Carolina State University at Raleigh, 1971.

Roethlisberger, F.J. and William J. Dickson, Management and The Worker, Cambridge, Harvard University Press, 1950.

Rushing, William A. "The Effects of Industry Size and Division of Labor in Administration", Administrative Science Quarterly, 1967, 12.

Sayles, Leonard R., Managerial Behavior: Administration in Complex Organizations, New York, McGraw Hill Book Company, 1964.

Selznick, Philip, "Foundations of a Theory of Organizations", American Sociological Review, 1948, 13, 1.

Selznick, Philip, Leadership in Administration, Evanston, Row, Peterson and Co., 1957.

Sennett, Richard and Jonathan Cobb, The Hidden Injuries of Class, New York, Alfred A. Knopf, 1973.

Simpson, Richard L. and William H. Gulley, "Goals, Environmental Pressures, and Organizational Characteristics", American Sociological Review, June, 1962, 27, 3.

Strauss, George, "Tactics of Lateral Relationship: The Purchasing Agent", Administrative Science Quarterly, September, 1962, 7, 2.

Strong, E.D. Jr. Vocational Interests of Men and Women, Stanford, Stanford University Press, 1943.

Terreberry, Shirley, "The Evolution of Organizational Environments", Administrative Science Quarterly, March, 1968, 12, 4.

Thompson, Victor A., Modern Organization, New York, Alfred A. Knopf, Inc., 1964.

Tyler, William B., "Measuring Organizational Specialization: The Concept of Role Variety", Administrative Science Quarterly, September, 1973, 18, 3.

Udy, S.H. Jr., Organization of Work, New Haven, HRAF Press, 1959.

U.S. Department of Labor, Handbook For Analyzing Jobs, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 1972.

Wallis, W. Allen, "Unity in the University", Daedalus, Winter, 1975, 104, 1.

Walther, Regis, Job Analysis and Interest Measurement, Princeton, Educational Testing Service, 1964.

Warner, Malcolm (ed.), The Sociology of the Workplace, New York, Halsted Press, 1973.

Weick, Karl E., "Laboratory Experimentation with Organizations", in James G. March (ed.) Handbook of Organizations, Chicago, Rand McNally and Company, 1965.

Woodward, Joan, Industrial Organization: Theory and Practice, London, Oxford University, 1965.

Young, Michael, The Rise of the Meritocracy, Baltimore, Pelican Books, Penguin Books, 1965.

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